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THE

PHOTO-BEACON

A JOURNAL DEVOTED TO

PHOTOGRAPHY

IN ALL ITS PHASES.

VOLUME XI.

1899.

"LET THERE BE LIGHT."

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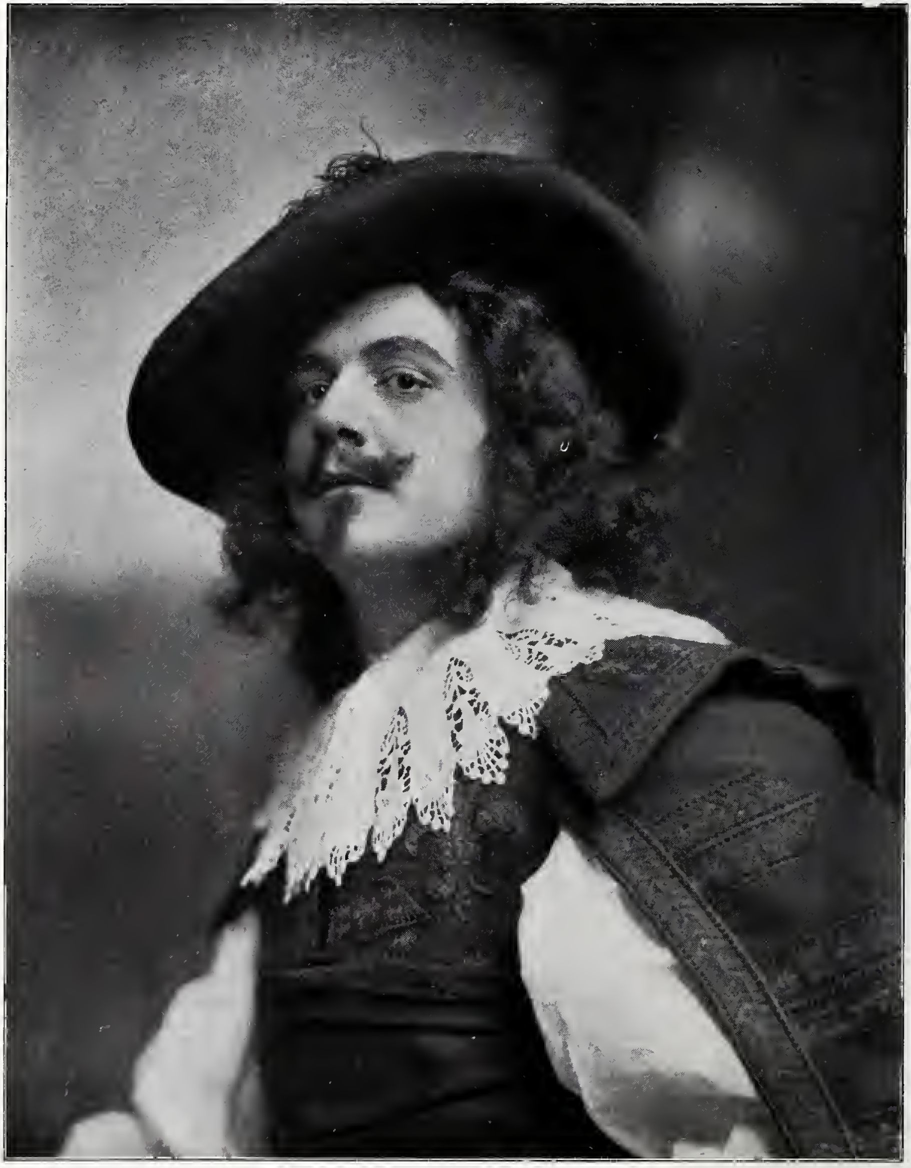


Negative by J. C. Strauss, St. Louis, Mo.

A CAVALIER.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. JANUARY, 1899. NO. 1.

STUDY.

Chatting a few mornings ago with one of our visitors who was very enthusiastic over a course of study that he had outlined for photographers, and which seemed to us to be just a little bit too wide reaching, we thought to clip his wings a little by throwing at him the well-worn saw about the necessity in these days of concentrating one's energy in one special direction.

He retorted quite unabashed, "I am a great admirer of the 'jack of all trades.'"

"So long as he is master of one," was our answer, and we were again sailing pleasantly in the same boat.

A successful photographer must be a "jack of many trades," and yet master of one — photography. To begin with, he must be a good business man, that is the first essential; for no matter how excellent may be his wares, unless he possess the knack of drawing customers to his place of business, and there tempting them to buy something that will leave him a fair margin of profit, he cannot be a financial success. At every convention we attend we meet on the floor dozens of men who are miserable workmen, and at first glance are far from being the beau ideal of what one conceives to be a successful photographer; but get "next them," start them talking in their own homely, ungrammatical way, and you will find in them a heap of shrewd business judgment and sound horse sense that enables them to do more business and make more profit than their competitors, who at first blush would apparently carry everything before them.

They realized long ago that their patrons were poor critics, and so devoted most of their energy to studying business methods. One keeps up public interest by a quaint originality in his local advertisements, another is a good "mixer," and is a member of every fraternal body in his town, and so on, according to the conditions that hold good in his locality. But these same hard-headed individuals are just the very men who see the change that has come across public taste in the past few years, and are trimming their sails to suit the changing breeze. The amateur photographer is very much abroad in the land these days, and he is nothing if not a critic. In the vast majority of cases he confines himself to but a few points, such as exposure, development and toning, and with more zeal than knowledge expresses his opinion freely of the local professional's work.

Within the past two or three years the amateur's ideas have gradually diverted into a new channel, and his hobby is art, and now the professional is getting hot shot poured into him from another direction, and the trouble is they know more of what they are talking about than does their poor victim.

This is where our shrewd photographer is going to come in, for he has sized up the conditions correctly, and is now hastening to put himself where he ought to be. We have had abundant proof of this in the last three months, as during that period close on a thousand new names have been added to our subscription list by the mere intimation that this magazine would contain a series of articles on "Posing," and it certainly amused us to notice among them a large number borne by men who at one time or another have frankly told us they never intended to bother themselves in the least about art, as their patrons knew nothing about it.

To all these, the men who practically are settling down to study for the first time in life we have a few words to say. To the inexperienced, studying is no light task. There is really but one royal road to success, and it is this — do a little every day, and go over the same ground frequently until you have practically absorbed the whole matter. Our amateur friends frequently come to us, displaying a tattered copy of "First Step in Photography," and assure us that they have gone through it twenty times, and that as it is now unmanageable, they want another copy. Let our professional friends take a lesson from this and continuously read and reread Mr. Wallace's articles, and they will find when they have mastered the principles therein they will be able to apply them instantly without conscious mental effort.

OUR FOURTH COMPETITION.

Some years ago one of the biggest lantern slide dealers in this country asserted that he had a more constant demand for slides of farming subjects than anything else, but so far had been unsuccessful in getting material together for it. When, therefore, we proposed "Farming Pictures" as a subject for competition we thought that our amateur readers, as members of the general public, would be specially interested, and therefore we would be deluged with a flood of prints. Imagine our disappointment when less than twenty were received and the vast majority of them of a very ordinary character.

The judges placed the awards thus :

First, Miss Frances Carver, Milford, Ohio.

Second, Will J. Dick, Manchester, Iowa.

Third, A. A. Bish, Chippewa Falls, Wisconsin.

Will our readers please waken up and take part in the next competition ?

To enter, all they have to do is to send us a print, preferably mounted, and on the back or front of the mount to write the name and address of the sender.

The prizes are :

First, a complete set of our own publications.

Second, H. P. Robinson's "Pictorial Effect in Photography."

Third, "Amateur Portraiture at Home."

FUTURE COMPETITIONS.

Competition No. 6 — River scenery ; closes January 31.

Competition No. 7 — Snow pictures ; closes February 28.

Competition No. 8 — "At Home" portraiture ; closes March 31.

Competition No. 9 — Lantern slides ; closes April 30.

NATIONAL PHOTOGRAPHERS' ASSOCIATION.

St. Louis, December 17, 1898.

Gentlemen,—The executive board of the National Photographers' Association will meet in Jamestown the second Monday in January, 1899. We will be pleased to hear from photographers suggesting subjects and questions of interest to be brought up at the meeting.

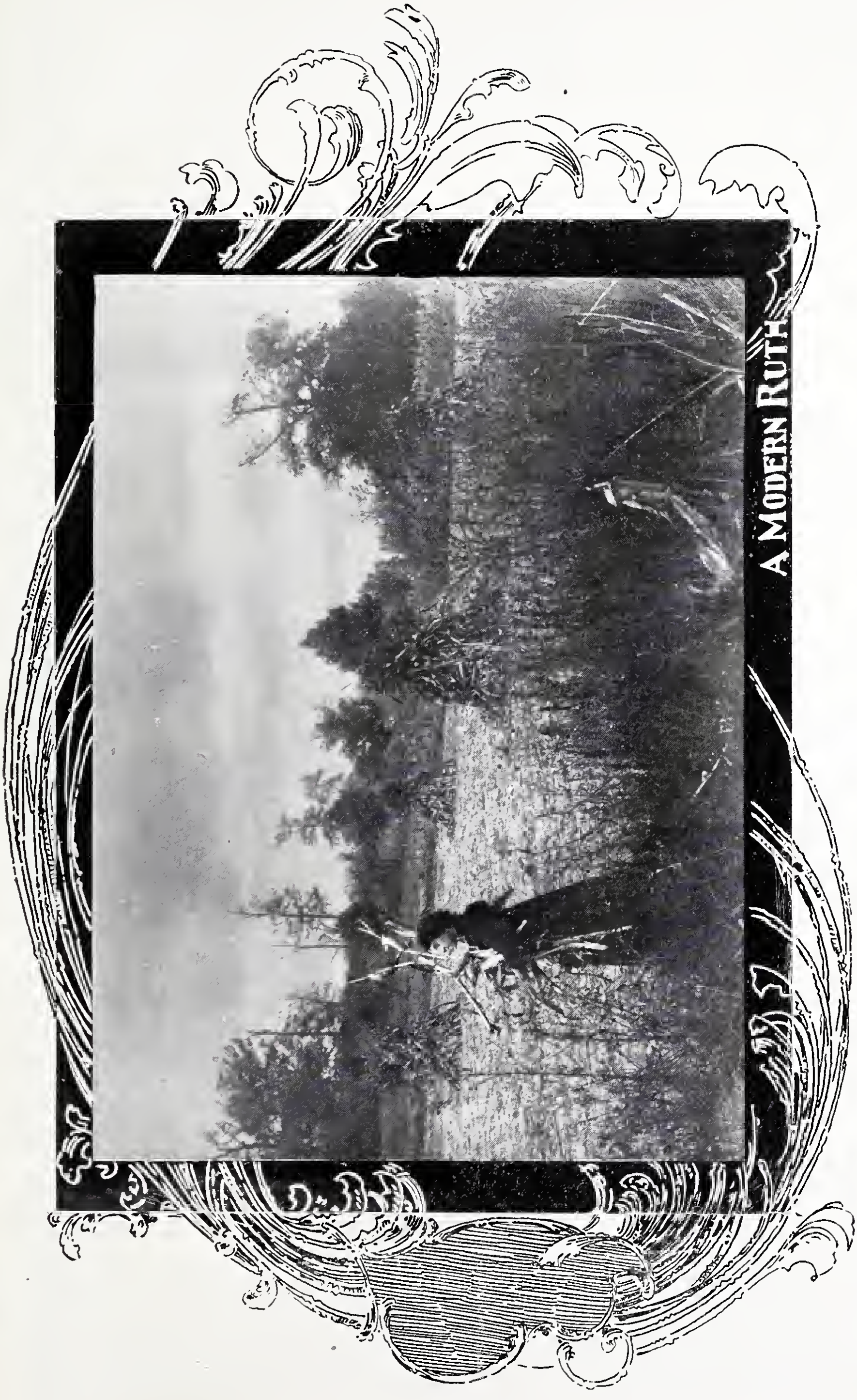
Yours sincerely,
F. W. Guerin.

INCREASE IN THE PRICE OF PRINTING-OUT PAPERS.

We understand that on account of the price of raw stock having recently been advanced something like sixty per cent the paper manufacturers of this country have felt compelled to advance the price of their products correspondingly, the advance to take effect from January 1, 1899.

MICHIGAN CONVENTION.

The next Michigan State Convention will be held on February 1 and 2 at Grand Rapids. The prize list contains particulars of competitions open to professionals and amateurs, and may be had on application to the secretary, F. C. Fryett, 84 Monroe street, Grand Rapids, Michigan.



FIRST PRIZE.

Negative by Miss Frances Carver, Millford, Conn.

PHOTOGRAPH PAINTING.

Photograph painting is almost as old as photography. In excellence its growth has been slow. The enterprise of enlarging photographs within the last few years has so increased that it has taken branch in almost every other enterprise. The groceries, bakeries and barber shops usually have a corner set aside where they take orders for enlarged pictures or give them as trade premiums. The agents who carry them from house to house are ubiquitous. The pictures they sell are manufactured in factories and washed with any sort of color, often applied with an atomizer. They are very cheap, which is their greatest merit. When we consider how they are made we do not so much wonder at their cheapness or that they never look lifelike. It is high time that amateur and professional photographers alike take some interest in this kind of art, instead of intrusting it to the irresponsible and ignorant vender of cheap shoddy.

Scientists have for many years spent time and money (and not wholly without success) trying to discover some method by which photographs might be printed in natural colors. Some have been able to produce the three primary colors by using three negatives, yet the desired effect is far from being obtained, although this may be a step in the right direction.

Artists also have sought easier methods than using water colors, but have never been able to improve upon the earlier methods. The Winsor & Newton water colors are the most durable, and I advise my readers to use only those manufactured by that company. Their cost is somewhat more than some others, but in the long run the best is the cheapest.

It is more than thirty years since the aniline colors were first used by photographers to tint photographs in order to save the trouble and expense of having them painted. These colors can be soaked into albumen paper and have a smooth and rather delicate appearance, but they are neither durable nor artistic besides being difficult to use on either gelatin or collodion paper.

An obstacle that artists have to contend with is the limit set by the shades in photographs, some being too dark, while others are too light for desirable effects; yet, if the colors are handled properly this can be partially overcome. The method of painting on plain or solar paper is too generally understood to require much comment; nevertheless, it can be made a life-long study.

These pictures are usually enlargements from small pictures to life size or thereabout, and in most cities they can be obtained from someone, who makes a specialty of solar enlarging, almost as cheap as they can be made by the photographer, even when he is already equipped with the necessary apparatus.

Having secured the mounted solar enlargement, place it upon your easel so that the light will come over your left shoulder, and your sample picture at the left of your large one, where you can see it to the best advantage, and compare the outlines often. There is always something lost by enlarging. The enlargement becomes coarse and "flat," and is usually covered with white spots and often black ones. The former must be stippled out with India ink, as this will not wash out and mix with the colors that are afterward used over it. The black spots should be removed with a sharp ink eraser.

Get a thorough knowledge of all the lights and shades before you commence, and, when possible, compare your picture with the original, observing if your sample is a correct likeness. If the face seems too full and round, the shadows are too light. If the face is too narrow, they are too dark. Do not disturb your lights and shadows until your work is nearly finished. To test your work look at it often at a distance of ten or twelve feet, as you can better study the perspective from this position. When your picture is nicely retouched with india ink and the outlines well defined, you can mix on your palette venetian red and a little yellow ocher in a thin wash for the face. Commence at the top of the forehead and let the color flow from a full brush over the face while your picture stands in an upright position. Mix a wash of pink madder and vermilion to wash over the cheeks and lips as soon as the face wash is dry. Repeat these alternate washes until you have sufficient color. While these colors are drying, or after each wash, go over the background and every part of your picture in order not to overdo any one part, which you are almost sure to do if you try to finish one part at a time. A good color for your background is made by mixing Payne's gray with a little roman ocher. If a vignette, use the gray almost pure. Wash in your color close to the head, extending it a little nearer the outer edges at each wash, so when finished it may seem like a floating cloud. Make your background as dark as it will bear, as this will give a greater relief to the figure.

Negative by Will J. Dick, Manchester, Iowa.

SECOND PRIZE.

Having your colors well washed in, you should proceed to finish by stippling. The face should be stippled in about the same way that you took out the white spots. First, with orange vermilion on the face, as this gives a good flesh tint. Stipple the shadows with burnt sienna, and their outer edges with cobalt blue, which will appear gray over the flesh colors. Also stipple the cobalt blue all around the outer edge of the face to strengthen the outlines, but do not make it too blue.

The hair should be painted carefully, working from dark to light by deepening the shadows and leaving the lights with but little color. You may make a very few lines in the direction taken in your sample picture, but be careful to not overdo this. Keep the hair always in a mass. For black hair I use ivory black; for dark-brown, sepia; light-brown, warm sepia; red and auburn, burnt sienna; yellow, roman ocher; flaxen, a thin wash of roman ocher with the shadows in burnt sienna and the higher lights a little naples yellow. These colors may be varied as the case may require.

For black eyes use burnt sienna or orange vermilion. These colors are used because the photograph always makes the eyes too dark. There are really no black eyes. If there were it would be impossible to see the pupil. So-called black eyes are usually very dark brown. For dark-blue eyes use indigo blue; for light-blue eyes, prussian blue or cobalt. Blue eyes are sometimes taken so dark that we feel they should be made lighter. You may use a sharp ink eraser in the iris close to the pupil. Opposite the high light a little half-circle will give transparency.

The draperies may be painted like the hair, from dark to light, and need no stippling. Be sure not to injure your picture with bright colors, as the head is the objective point, and nothing should draw the attention from it.

The face does not depend upon color or features altogether for beauty. More depends upon expression. Look well to emphasize all that which portrays intelligence and good nature, while you suppress that which indicates the opposite. A good likeness may be obtained without signalizing the blemishes. They should be subdued or erased, for "beneath a frown a smile may lurk."

The method of painting photographs on the print-out paper in common use is not very generally understood. This paper being hard and smooth, requires some medium to mix with the paint, or flow over the print before the color will "take." It is very difficult at first to manage this kind of painting, hence you see so much tinting without the general face wash. The draperies are often colored and a little pink madder stippled on the cheeks, while the flesh color is wholly lacking. This is all wrong. The flesh color is of more value than the tint on the cheek. Besides this, it adds much to the likeness and takes away the cold gray look of the photograph.

Take half a teaspoonful of gum arabic and dissolve it in three tablespoonfuls of warm water. Never let the water boil, as it will cause the paint to crack and scale off. This vehicle will sour and become worthless in about a week, and must be renewed.

Your palette should be white porcelain with several compartments to keep the colors from running together. Your brushes, red sable, ranging in size from Nos. 1 to 10.

Prepare your photograph by wiping with a clean damp cloth. If it still refuses the color and appears greasy, dampen the cloth with your lips, which is sure to remove the grease. In the first space of your palette mix a face wash of orange vermilion with a very little yellow ocher. Put in gum water enough to keep the colors from curdling. Two drops is the usual amount, but this depends on how large a wash you mix. You can test it only when dry. If it is too thick it will crack when you bend the card. Use as little as will work well. In the second space of your palette mix pink madder and vermilion with gum water for the cheeks and lips.

If you are working on aristo-platino, it is a good plan to warm the picture before applying the color and as soon after as possible. This hastens the drying.

To apply these colors, hold the picture flat on your left hand and with a No. 7 red sable brush full of face wash commence at the top of the forehead and cover the face. Make it a little thinner on the nose and high lights. While this wash is still wet, put on the center of the cheek a drop of the other color with a No. 1 brush, and assist it to spread. The deepest color should be in the center of the cheeks, and should blend down on the edges until no outline is visible. When perfectly dry, color the lips and eyes, and put on a wash in the same way for the hair, using the same colors as on plain paper. Then stipple the face carefully with a No. 1 brush containing but a very little color. The draperies may be washed on in the same way as the hair. Considerable patience will be required at first. If the first attempt is not successful, the color may be washed off very readily.

Some artists use a vehicle of gum water, prepared by Winsor & Newton, to wash over the picture before painting, but this is usually unnecessary. Some, on the other hand, put a few drops of ox gall into the gum water when it is being prepared.

In conclusion, I would say make smooth, even washes for desirable effects; then stipple to take out the marks of retouching. The more you stipple the more transparent the colors will appear, and the best washes require to be filled in, as it were, by stippling.

EMILY R. EASTMAN.

SOME SEASONABLE HINTS.

When sweeping or dusting out a darkroom, use a damp cloth and not a brush. The reason for this is that there are generally some specks of hypo about, and the cloth being damp, they adhere to it, and do not fly about and settle down in your developing dishes.

Do not have a multitude of useless bottles on the shelves. The labels very often peel off or get dirty, and mistakes are made as to the bottles, and the result is that your work is completely ruined. Keep the different solutions to themselves — the developers in one corner, the alum in another, and the hypo as far away as possible, while the measuring glasses should have a small shelf to themselves. Glasses are difficult to see in the dark, and should you, in putting a bottle back on its shelf, knock one over, ten to one it is broken, and another has to be bought.

It is a good plan to cover the wooden bench in the darkroom with white American cloth. It is very clean and cheap and can be washed, and when it gets dirty is easily replaced.

See that the tap of your cistern turns easily, and that there is no rust on it. A particle of rust falling on the film of a slide when washing it may scratch it, and somehow or other it manages to fall on what would have been your "best" slide or transparency.

One should always have a light-tight box in the darkroom into which the developing dish can be placed, in case one is wanted outside, or the light goes out, or when one has to put in more oil or a new candle, as the case may be.

Paint the shelves some dark color with Aspinall's enamel, and they are then kept clean, and can be washed should any chemicals be spilled over them, and the stain does not reach the wood. A fresh coat of paint can be put on when the old wears off.

A good plan for your darkroom is to have a shelf high up near the ceiling on which you can put your boxes of exposed and unexposed plates, etc. They are then out of the reach of inquiring domestics, and are not so likely to be tampered with.

S. D. Simond.

Neg. by E. E. Peck. La Crosse, Wis.

BABY.

PHOTOGRAPHIC WRINKLES.

It is surprising what a little is understood about the properties and composition of the various articles used in everyday photography by photographers, both amateur and professional, and photographic dealers or their assistants. I suppose being able to obtain all the articles ready made in these days accounts for a lot of it, as in the old wetplate days it was necessary for a photographer to know a little, at all events, of the scientific part of his business; but now he buys his plates, papers and chemicals all ready for use, generally with full instructions inclosed. If he is a careful man he works to them, but if careless, he works as near as he thinks he will; should anything go wrong he blames the materials and changes to another make. It can hardly be expected that he should know much about the manufacture of gelatin dry plates and emulsion papers, as it is almost impossible for the average photographer to make these articles himself, requiring as they do expensive machinery and a large amount of chemical knowledge, but it seems strange that he does not understand the main principle of them.

I had occasion a short time ago to call at a large photographic dealer's for a packet of a new brand of collodio-chloride P. O. P. which I wanted to try. The assistant did not seem to understand what I wanted; he went to inspect their stock, and, turning to me, said, "We have —— and ——," mentioning two well-known makers of gelatino-chloride. I said, "They are gelatino-chloride; I want collodio-chloride; they are made with gelatin, I want a paper made with collodion." He replied, "We only keep the gelatin, we don't keep the chloride," and I find this is a common mistake with most amateurs and many professionals. One often hears the remark made, "I only use P. O. P., I never use the chloride"; or, "I do not care for those chloride papers. I always use albumen." And very few seem to be aware that printing-out papers, of whatever description, are of necessity chloride papers, as up to the present chloride of silver is the only silver haloid which has been found suitable for printing-out purposes, the difference being that with albumen the chloride is formed in the paper itself, while with collodio-chloride and gelatino-chloride an emulsion of the chloride is formed in a solution of collodion or gelatin, and the paper is afterward coated with this emulsion.

Another stumbling-block to many is distilled water. The question is often asked, "Are not boiled water and distilled water the same?" and when told no, the reply is, "What is the difference?" Distilled water certainly is boiled water, but boiled water is not necessarily distilled, the latter being water which has been boiled and the evaporated steam condensed in stills, similar to the way spirit is distilled. Many photographers cannot understand the necessity of using distilled water in toning baths, and often ask, "Why is it necessary?" Water is the most universal solvent known, and consequently is never found in a pure state, naturally rain water being the purest; but even this contains traces of carbonic acid gas, and other impurities of the atmosphere, more especially in towns. Ordinary tap water generally contains carbonate of lime or chalk, sometimes sulphate of lime or gypsum, and traces of iron, etc., which, if made up into gold solutions would precipitate the gold and render the solution useless, the idea of the action of the toning bath being, that the gold which is held in solution by the water is precipitated upon the print through the already reduced silver, which attracts the gold; therefore any foreign matter which attracts the gold robs the bath of a certain amount of the noble metal, which should have been received by the print, and most impurities will reduce chloride of gold to the metallic state, as it is a very unstable salt, hence its value as a toning agent. Of course, water which has been boiled and filtered, if contaminated with carbonate of lime or chalk, is very much purer than ordinary unboiled water, as boiling drives off the carbonic acid gas, which enables the water to dissolve the lime, consequently the lime is deposited; this is well seen in what is commonly known as "furring" of kettles and other kitchen utensils and the incrustations of boilers. This is known as temporarily hard water. Sulphate of lime or gypsum cannot be got rid of so easily, as boiling does not precipitate the sulphate, which can only conveniently be removed by distillation. This is known as permanently hard water. Well, spring and river waters are contaminated with the different strata they filter through or flow over, or sometimes with organic matter which is dissolved by the water.

I have known amateurs to use boiled tap-water for making up toning solutions, under the impression there was no difference between that and distilled water, with the result that they have been unable to tone their prints, as the whole of the gold has been precipitated either at the bottom of the bottle which holds the stock solution, or in the toning dish. Distilled water should be odorless, tasteless and unpalatable.

Hyposulphite of soda is another article which is sometimes used in an unscientific manner, being very often dissolved up, and used at once, which is a great mistake, as hypo in dissolving makes the solution intensely cold, and if used in that condition does not have the proper effect upon plates or prints.

Hypo should always be dissolved a day or two before using, as it frequently deposits sulphur and other impurities, probably accounting for fading and yellowness, and in addition is very often quite acid, a condition which generally results in great reduction of plates or prints. This latter fault may be easily remedied by the addition of a small quantity of ammonia.

It is always advisable to use a strong solution of hypo in preference to a weak one, as a weak solution forms an insoluble hyposulphite of silver, which is a cause of trouble later on. On the other hand, a strong solution forms the soluble hyposulphite of silver, which is easily dissolved away in the final washing.—*The British Journal of Photography.*

C. T. SUTTON.

THE LANTERN.

A NOTE UPON THE MERCURIAL INTENSIFICATION OF GELATIN LANTERN SLIDES.

Having regard to the alleged fugitive nature of the results obtained by any method of intensification which is associated with the employment of mercury, it may seem to many rather a heterodox doctrine to suggest its use for the toning or modification of the color of lantern slides. Theory supports the view that mercurial intensification tends to impermanence. Practice, however — my own and that of others — does not altogether confirm this view; were it otherwise these suggestions would not be made. I have employed mercury in various ways for the toning and intensification of lantern slides during the past four years, and I have not during that time found slides so treated less permanent than others produced by simple development.

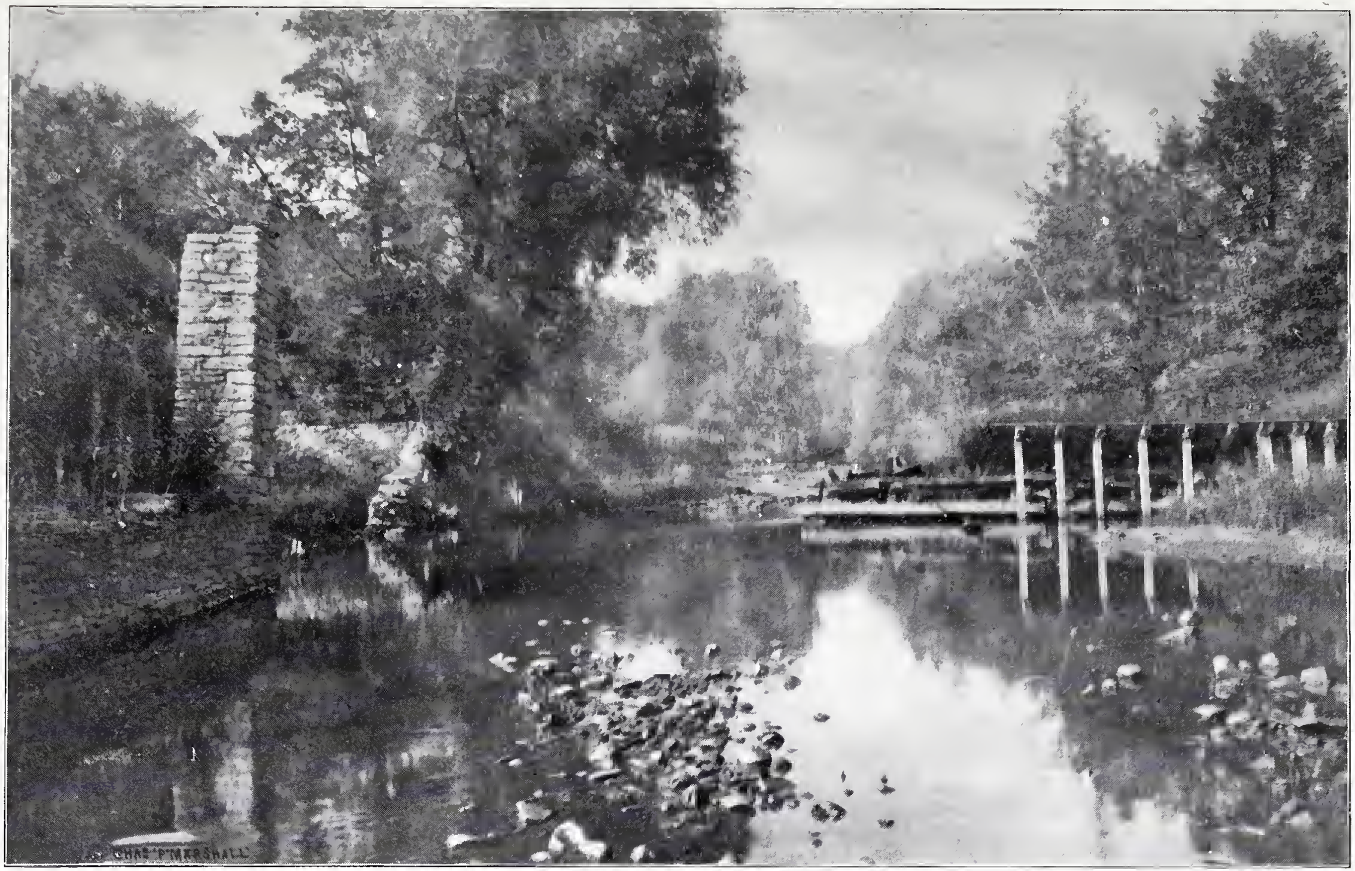
But to insure permanence, it is absolutely essential to wash thoroughly in running water between each stage of the operation. To a rigid adherence to this rule I attribute, and entirely attribute, my own success. Moreover, I attach the greatest importance to the use of running water, for it is the only perfect means of eliminating the last traces of hypo and mercury, and those who cannot adopt this method of washing, or who have to rely upon prolonged soaking, should not, if they wish their slides to be permanent, employ mercurial intensification in any form.

Apart from the question of permanence, there can be no doubt that, properly used, mercurial intensification is a method which permits of results being produced approximating as nearly as possible to perfection. But to secure this desirable end, strict attention must be paid to several points of manipulatory detail. I may say at once that in suggesting the employment of mercury I am not referring to the occasional intensification of an over-exposed or under-developed slide, but to its systematic employment for the obtainment of a given result. The method is equally satisfactory whether warm or cold colored slides are desired; in the former case, a slow, and in the latter a quick brand of plate being employed. I claim for the process a delicacy of color and transparency of deposit, that cannot easily be obtained by simple development. In short, some of the finest slides I have been able to produce upon gelatin plates have been made in this way.

Briefly, my method of working is as follows: Sufficient exposure is given to produce, with a very weak pyro developer, a thin and delicate image possessing all the attributes of a good slide, except the necessary density. Any good developing formula may be used, but the mixed developer should be diluted to half-strength with an equal bulk of water. The exposure, whether in the camera or by contact, should be so regulated that development will proceed slowly and regularly without any tampering with the solution. The image must be full of detail, but entirely free from veil or fog. Very little practice, working upon these lines, should enable the reader to make the right kind of transparency.

Now, strict attention must be paid to the following details, or the final permanence of the slides cannot be insured. After the slide has been well washed, to remove all traces of the developer, it must be placed for not less than ten minutes in a freshly mixed and clean fixing bath of ordinary strength, after which it should be transferred to a second bath for an additional five minutes. These baths should not be used after the first day, or when they become discolored. The slide, after its removal from the second bath, must be thoroughly freed from every trace of hypo, and, as I have already said, the only really effectual method of doing this is to wash in running water. Probably the best plan is to place the slide under the tap, and allow a gentle stream of water to fall upon it. Half an hour of this washing should be sufficient. It is not always convenient to adopt this plan, particularly when there are many slides to be washed, in which case a more expeditious plan is to place the plates in a narrow wooden trough, which, if inclined at a slight angle, will allow the water to run over the plates as they lie at the bottom, in a gentle stream. Failing this, an ordinary siphon tank, fitted with rack for the reception of the slides, may be used; but in this case the period allowed for washing must be considerably longer — not less than an hour and a half or two hours. If the plan of washing the plates singly be adopted, which is the one I recommend, splashing may be entirely avoided by tying a strip of rag to the spout of the water tap long enough to just reach the plate.

The hypo having been eliminated, the next step is the bleaching of the image. To effect this, a saturated solution of bichloride of mercury is employed. Sometimes minute air-balls form on the surface of the film; these must be immediately removed either with the tip of the finger or a clean camel's-hair brush. Allow sufficient time for the bleaching action to be thoroughly performed, pour off the solution, and wash under the tap for a quarter of an hour. The slide is then ready for redevelopment or intensification. This may be done in a variety of ways. The developer employed for the development of the original image may be used, or a weak solution of ammonia or of sulphite of soda. Personally I prefer, and generally use, ammonia, notwithstanding the alleged impermanence of results attributed to it. The strength is not particularly material, but it will be found best to use a weak solution, because the result will be more under control — 40 to 80 minims of a ten per cent solution to an ounce of water may be suggested as being a useful strength. Ammonia produces with some plates a rich, warm brown, in others a sepia or chocolate. The final color, however, depends very much upon the plate, and the color produced by the original development of the slide; if the original color was cold, the final color will also tend in the same direction, and vice versa. One curious property of ammonia is that, if a weak solution be used, the color will at first be warm, and will then gradually become colder, until the maximum of density is obtained. From this stage, however, the solution begins to act as a reducer, and the image will gradually lose strength until a point will be reached when the density will actually be less than before intensification. During the time this effect has



Negative by Charles P. Marshall, Cazenovia, N. Y.

WHERE BUSY WHEELS ONCE PLAYED.

been proceeding the slide will have been becoming colder in tone, but its quality, apart from density, will not in any way be impaired, there being no loss of gradation or eating away of the more subtle tones, which is inseparable from the employment of an ordinary reducer.

The command over the final result which this method affords when intelligently worked is simply enormous — almost any effect being producible with ease and certainty. It is one that, so far as my experiments have gone, is applicable to any commercial brand of plates, though the colors and results are, of course, widely different. It is particularly suitable for chloride plates, producing the most delicate and transparent shades of brown and sepia with certainty and celerity, and at the same time removing the only difficulty connected with the manipulation of these otherwise excellent plates, namely, the uncertainty and in some cases unpleasantness of color or tone of the slides produced upon them. The treatment of chloride plates should be identical with that previously described, all the precautions insisted upon being carefully followed.

The only possible objection to the adoption of this method of working is the halo of doubt as to the permanence of any photographic method in which mercury plays a part, but on this score I do not think much apprehension need exist. This, at any rate, is my own experience, for I have slides produced by me in the manner described so long as four years ago, and these do not exhibit any sign of deterioration or change, notwithstanding the fact that they have been through the lantern some hundreds of times. More cannot be said for warm-toned gelatin slides produced by development, for such will sometimes unaccountably fade or, rather, deteriorate so far as tone is concerned in a less period than that stated. The danger of the process, of course, lies in a neglect of any of the precautions that I have so strongly insisted upon. These are, to briefly recapitulate:

(1) Thorough fixation and removal of any complex substances from the film by the employment of two freshly made fixing baths.

(2) The complete elimination of the last traces of hypo by prolonged washing in running water.

(3) Copious washing in running water between the various subsequent operations. John A. Hodges, F.R.P.S.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

(Copyright, 1898, by F. Dundas Todd.)

III.

A well-known American humorist once prefaced a volume of his poems with the words, "If you knew how many much worse poems I have written, you would think these good," and a good deal the same thing may be said in reference to the work of the average professional photographer. But it is a bad plan to judge of the quality of your work by the still greater lack of quality in the work of another. No man in building a house ever measures the uprightness of its walls by the known crookedness of another — but applies to all a rule which he knows to be absolutely straight. So let this rule apply in all of your work. Aim for artistic per-

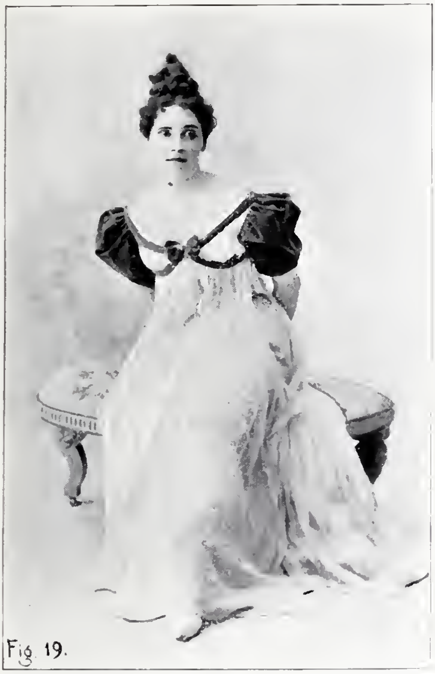


Fig. 19.

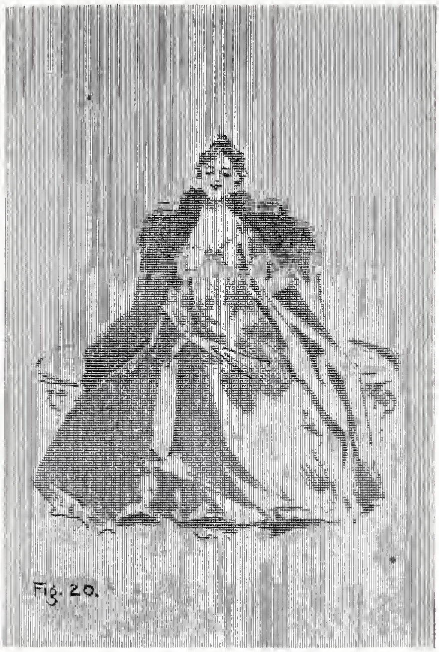


Fig. 20.

fection and let every exposure bring you nearer to it.

I do not think that at the present day there is any tendency among the photographic fraternity to scoff at the rules of art, but rather to study with the intention of becoming a follower of them.

When an artist studies for the figure he is compelled first to learn anatomy. Why? Simply that he may know the correct form or framework upon which he constructs his figure, and although the finished drawing certainly indicates the framework, yet the framework itself is hidden. So with the pyramid and angular composition. Do not think that it is necessary to pose a figure as in Fig. 19, for Fig. 20 conforms also to the same framework, and yet possesses a grace and beauty that Fig. 19 does not. True, the figure has been somewhat altered, but not the pose. In the first picture the attitude is meaningless. It does not suggest any intelligent pose, unless, perhaps (save the comparison), a kitten intensely watching a mouse. On the contrary, Fig. 20 possesses a certain amount of "life" and interest. The addition of an opera cloak and a fan carries out the idea of the costume, and the straightening up of the figure, together with the backward swing of the head, add to the pose and give an appearance of vivacity and anticipation. When you come to look carefully into the pose and analyze it, you see that the curve before spoken of as the "line of beauty" forms the pattern or model which the figure is made to conform to. Look carefully at Fig. 20 and trace out with your eye that curve through the figure beginning with the top of the curve passing down the center of the nose and ending by following down the lower part of what would be the left leg while the skirt forms over all a well-defined pyramid. Half close the eyes and hold the illustration at arm's length from you and you will see clearly the construction of the entire pose — the small pyramid of the head and shoulders, the bust pyramid and the major pyramid of the skirt. Artistic posing is in these days the one great aim of

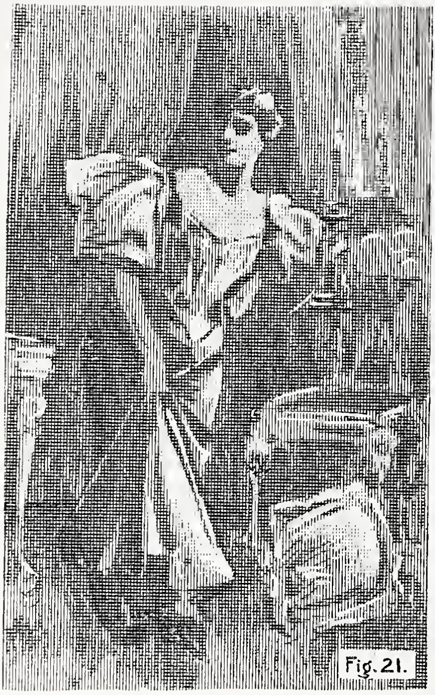


Fig. 21.

the photographic profession, and while much of it is graceful and elegant, yet much of it is overdone.

In the last chapter a pose for "Good-night" was shown and now we present the same figure, but with the addition of a few "photographic studio accessories" and a "background"— the result is that we spoil the picture (Fig. 21). Moral: Let the accessories and background be subordinate *always* to the figure; if the model is remarkable for grace then let the background fall back and away from the figure so that nothing interferes or mars its beauty, while if grace and lightness are conspicuous by their absence, or the drapery should fall in massive and heavy folds, a background so lighted that it runs into the figure and blends with it is the more suitable. Do not introduce a lot of finicky accessories as they simply serve to distract the eye from the principal point. The more judiciously a man selects the more artistic will be the result. Again, let me say, show your individuality; give no heed to the outcry against "mannerisms," for if the mannerisms are of the right sort then they are an advantage. Where would be the charm in the writings of Dickens, Thackeray or Hugo if we were to strip them of their "mannerisms." Study originality in pose, yet always bear in mind that the simplest poses are the most successful; leave startling poses for the theatrical photographer and keep yours simple and dignified. Make the sitter comfortable so far as possible both in regard to position and light, and you will have a successful portrait. Never inflict on the gentle-looking and dignified a pose that would be more suited to a laughing, light-hearted schoolgirl of eighteen. For what would be the sense of giving a serious-looking person a pose belonging rightly to one full of spirit and vivacity if we are desirous of making a success in the finished print. The model would be certain to feel disturbed and ridiculous, more or less, and the pose and expression strained. Vivacious people, on the other hand, can the more readily adapt themselves to the acting of a part or pose than can they whose every natural move and expression show that they take themselves in a decidedly serious way. There is no *absolute* rule which will apply to the posing of the individual; different subjects require different treatment.

Observe the difference between Figs. 22 and 23. I call your attention to a few of the most glaring imperfections in the former by the X against the most faulty lines and give you the latter to show you how they have been avoided.

In the first place, the cushion in the lower left-hand corner of the picture serves no good purpose, and stands as an example of the introduction of an accessory which is perfectly useless— serving to give a feeling of "stuffiness" to the picture, which is still further enhanced by having the head of the figure so near to the top of the picture.

Now, suppose we draw a line through the figure centrally, following the pose— first through the head, continuing through the bust and ending in the lower part of the picture— practically one straight line will do it all, while in Fig. 23 you can again trace the "line of beauty"

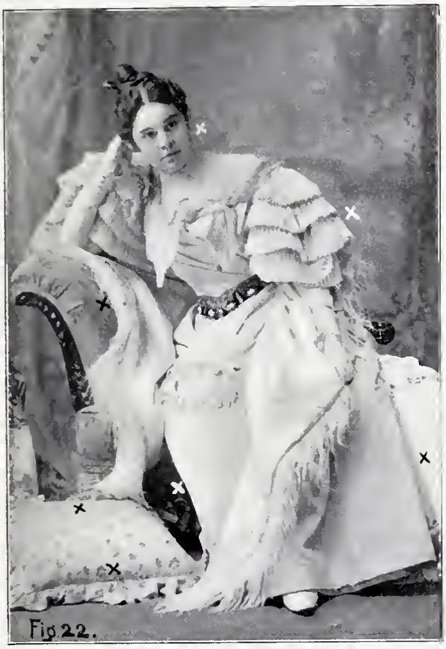


Fig. 22.

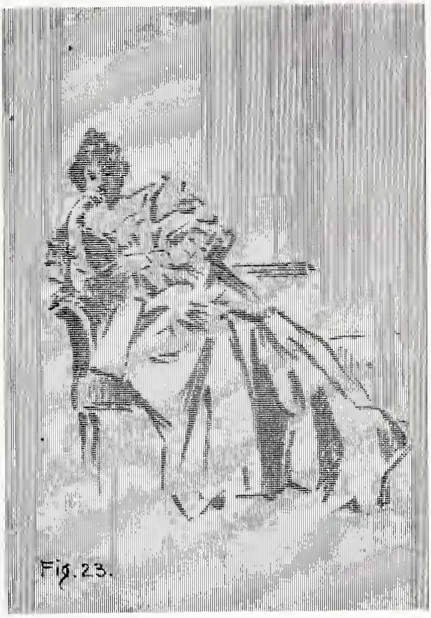


Fig. 23.

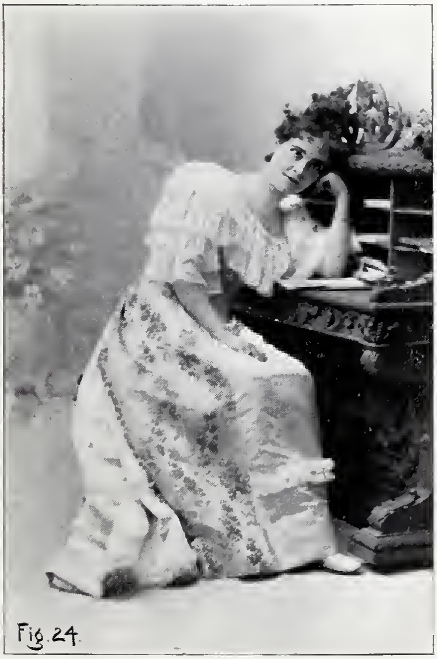


Fig. 24.

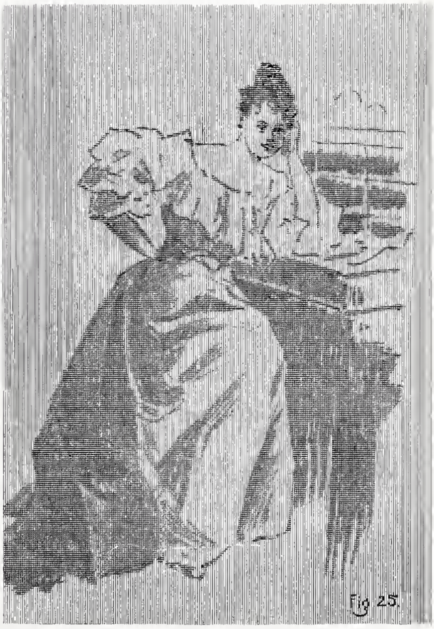


Fig. 25.

which is made possible by the different inclination of the head and the rearrangement of the skirt drapery; note how the absence of the pillow and the greater space above the head gives more "force" to the picture, while the long trailing lines of the skirt at the right half carry out the idea of the reclining pose. The shawl or wrap has also been removed because, like the pillow, it is unnecessary, and at any rate it has been poorly disposed, because as you see by the X, it follows the same line as does the figure.

Again, in Figs. 24 and 25 you will notice the same method of correction. In the first there is too much of the same slope — the pyramid is unstable. See how, in Fig. 25, the inclination of the head, the opposing slopes of the arms and the crossing of the one knee upon the other, brings the whole pose into a more harmonious diagram.

Again has the inclination of the head made possible the "curve" as a central line instead of one straight line from the top of the head to the waist, as in Fig. 24. Note also how the erection of the head gives opportunity to change the slope of the left arm and form the one side of the upper triangle, while the skirt again forms the other. How much better it would have been had the "train" in Fig. 24 been extended to the left, as shown in its companion, Fig. 25.

R. JAMES WALLACE.

THE DARKROOM

TOLIDOL.

The title of this article is the name of a newly introduced developer, which might easily be supposed to belong to the already long list of developers "made in Germany," but such is not the case, for it is actually the first developing powder made in the United States, and as such ought to combine everything that is good.

But "a prophet is not without honor," etc., and when commencing a series of experiments with the new agent, it was with feelings of not unmixed delight.

It is well, when trying something new, to follow the instructions sent out with as close fidelity as possible, not acting like the experimenter in isochromatic photography, whose words we read the other day. He said: "I took about so much erythrosin and dissolved in about so much water, and added a few drops of ammonia." How he expected to get definite and trustworthy results is hard to suppose.

It is not hard to follow the instructions sent out with Tolidol; they are simplicity itself.

The salts are put up in tubes in such a way that it is only necessary to cut off that part containing the Tolidol, and dissolve all the contents in twenty ounces of water, and when thoroughly dissolved add the sulphite and alkali contained in the remaining part of the tube.

One strong point was stated about this new developer — that it developed like pyro. Now, we all know that but for its staining qualities pyro would be used more than any other agent. Indeed up to a short time ago, there was nothing in the market giving to a negative so many good qualities as pyro. So it can be well understood that a developer like pyro without its staining ability held hopes which we trusted would not fail us.

The first experiment made was on the fingers for stain, and although we have used varying quantities of alkali, the stain has been found entirely absent.

Negative by M. R. F. McCarthy, Binghamton, N. Y.

Taking the formula giving the solution as above, we found on a properly exposed landscape that the image came up in the manner of a plate developed with pyro in a tentative way, no general rush all over the plate, but that gradual building up with perfect gradation which is a delight to see. Tentative development seemed with Tolidol to give no improvement over the other method, consequently it comes to be a practically automatic developer with the beauty of pyro, and the use of it would seem to put a fresh power into the hands of the multitude, not leaving the making of a really good negative to the comparatively few.

There may be and possibly are a great number of photographers who have been using one of the many German developers from eikonogen downward, and here comes in the adaptability of

Tolidol: by changing the proportions of sulphite and carbonate a plate giving the qualities of any of these developers can be produced.

The manufacturers of Tolidol have spared no pains to make everything as simple as possible, making a long series of experiments with every plate in the market, in order that they can supply a developer so constituted that it will give with any certain plate the best possible result which the plate is capable of producing.

This, for amateurs who have as a rule some favorite plate, is a great boon; they have simply to get the tube of salts made up for their particular plate in order to get the finest negatives the plate can give; that is, of course, if the exposure is somewhere near right. It must not be supposed that Tolidol can cure a vast amount of bad judgment.

For lantern slides this developer seems to have great possibilities, but we are making a series of experiments, the result of which will be given later.

We are enthusiastic over this new find, and more will be heard of it in time to come; it fills a place in photo chemistry, and as a developer we expect, as manipulation and experience grow, that the prophet will be honored not only in his own country but in every other country.

W. H. Hyslop.

THE PRINTING ROOM

SINGLE TONER.

Many photographers, thinking that the single toner is a combined bath in which prints are fixed and toned at the same time, have condemned it without a trial. This is a mistake, as the prints are toned first and then fixed. There are several single toning solutions on the market and formulas for making the same, but all are imitations and not to be compared with the "Single Toner" manufactured and put on the market by the American Aristotype Company, of Jamestown, New York. It is made of the purest chemicals and especially adapted for their Platino and Junior papers. If properly handled, it will give results fully equal — if not superior — to the finest carbons made; saving all the delicate half-tones in the high lights, giving depth and brilliancy to the shadows, pure whites and a print fully as permanent as any carbon made.

In this article I will try to briefly explain the simplest and easiest manner of working Aristo Platino and Junior in the single toner.

First, The printing should be fully as dark as for double toning; print until the half-tones begin to show strongly in the strongest high lights. Too light printing gives weak and bleached looking prints when finished.

Washing. — Prints should be washed in from eight to ten changes of clear water before toning; to thoroughly remove all free silver, *handle prints over in each wash water.* Letting prints lie in running water for an hour without handling is not as good, as some prints will not be thoroughly washed.

After washing, tone in the following bath: Water, 30 ounces; single toner, 2 drams; aristo platino, 1 dram. Prints should be toned in this bath until all trace of red has disappeared from the deepest shadows. If the toning is not carried fully this far, you will not get pure whites or clear shadows; but prints will come out after fixing, a dirty, muddy green color, with no brilliancy.

Throw prints from toning bath into clear water until all are toned. Then wash in four changes of clear water, handling prints over in each water to thoroughly eliminate all acid before fixing; then fix in a plain hyposulphite of soda bath — 18 grains strong to the ounce, hydrometer test — for twenty minutes, handling prints during the fixing to insure perfect results. After fixing, wash in from ten to fifteen changes of clear water.

SOME THINGS NECESSARY TO REMEMBER.

In many places the water is impure and red spots make their appearance. In trouble of this kind, add to every gallon of the first wash water, 3 ounces of a saturated solution of sal soda. Handle prints over in this water from five to eight minutes. It will do very little good in any but the first water.

If prints, when put into the toning bath, bleach or cut out the high lights, spoiling the delicate half-tones, the addition of from one to two drams of aristo platinum to the toning bath will remedy the trouble.

Prints should be thoroughly washed in four changes of water after toning, before fixing, as the toning bath is very acid, and if this is carried into the fixing bath it is liable to cause muddy whites and produce prints with no brilliancy.

Negative by A. A. Bish, Chippewa Falls, Wis.

THIRD PRIZE.

Never use your platinum tray for anything but single toner and platinum toning.

In working Aristo Junior and toning with single toner, print and handle just the same as if you were working Aristo Platino; this will give you an olive-black tone that when burnished is a great deal finer than warm tones, toned in gold.

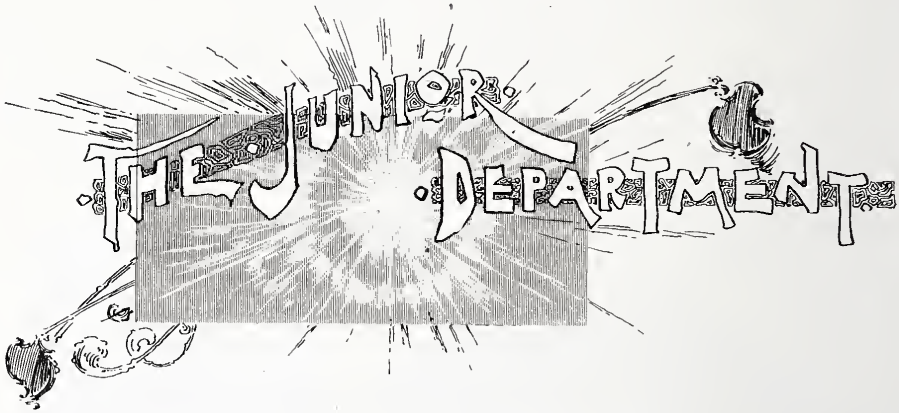
When bronzing shows in the shadows, after prints are finished, the best remedy found is the sal soda in the first wash water. It softens the emulsion enough to allow the silver to wash out more freely in the heavy shadows, as well as allowing the toning bath to penetrate the heavy bronzed shadows, and thus remove the trouble.

Your toning bath can be strengthened by adding 2 drams of aristo platinum and 1 dram single toner, always watching your bath to see that it is working right.

All wash waters and toning baths should be kept at a temperature of from sixty-five to seventy degrees during cold weather.

Last, but not least, use judgment in all your work and do not condemn toning solutions, paper, etc., just because you do not have success; but remember, others are working them successfully and you should be able to do the same.

C. T. MEACHAM.



SOME SUGGESTIONS ABOUT TONING SILVER PRINTS.

The toning like the developing formulas are without end. Every manufacturer of silver printing papers has his own, one or more, and the photographic publications, American and English annuals and monthlies, all help to swell the vast number of formulas and to make confusion more confused.

What is an amateur photographer, especially if he uses several kinds of printing papers, to do under these circumstances? "Follow the instructions of the paper manufacturers," some will say. Well, I have tried it, to some extent. But, if you want to tone papers of different manufacturers together, what then? You cannot use the different formulas at one and the same time. Besides, some of the formulas are unnecessarily complicated; and, moreover, by following them one may, at best, get one tone or another, whereas with any really good silver printing paper one ought to be able to get a great variety of tones, from light ones to purple and black. Various subjects harmonize better with certain tones than with others, and it is, no doubt, desirable to know how to get the different tones desired, and this one cannot do by simply following the instructions of the paper manufacturers.

During the past four months I have spent a good many of my leisure hours in experimenting in various directions as to toning, and perhaps the following suggestions may be of some use to fellow-amateurs.

In order to get a good, especially black tone — without the aid of sulphur — various factors have to coöperate. First, the lens. Some lenses will never make a good negative, no matter how you will try. And without a good negative one can never expect to get a really good print, and without this a good tone is impossible. Another factor is the plate. On this point there is little difficulty. The plates generally are all right if they have been properly exposed with a good lens and if they have been properly developed.

This brings us to the next point — the developer. With the so-called soft, detail-giving developers, at least, I have never succeeded in getting a negative such as is necessary to get a good print and then a good tone. Where the exposure is sufficient, there is probably no better developer than pyro to produce an all-round good negative.

Another point is the gold toning bath. Good authorities flatly condemn all so-called combined toning and fixing baths; and, it seems, for good reasons. Such baths may be all right for lazy people, and the results are said to be just about as unreliable as they deserve to be. Use, then, only the separate toning and fixing baths if you wish to get good and permanent results.

The gold bath should be slightly alkaline, some say; others claim it is better to have it neutral.

Well, I have tried it in various ways, and have found that it works well even if it is acid—that is, if the gold chloride has not been neutralized.

But an acid gold bath reduces or bleaches the print considerably. It seems to be quite useful for overprinted prints. A decidedly alkaline bath seems not to reduce the print much and may even give muddy high lights. A neutral or slightly alkaline bath reduces a little, and clears up the whites.

A neutral or slightly alkaline bath seems to be best, if the prints are correctly printed. If they are overprinted, an acid gold bath may be useful.

The quantity of gold in the bath is a matter of importance. One grain of gold will tone twenty-four good cabinet-size prints. If the prints are poor, or if the paper used is poor in silver, a far greater number may be toned — but how? If you want good dark tones be sure to have enough of gold in the bath and keep on toning long enough — how long can only be learned by experience.

A very important factor in toning is the water which is used in the toning bath. Many kinds of water contain impurities that unfit them for a toning bath. Some waters are so alkaline that they turn red litmus blue as soon as they touch it. Some alkaline waters may be purified by boiling; but there are also alkaline waters which no boiling will cure. At all events carefully test the water with litmus before using it for a toning bath. The water ought to be about neutral. Pure rainwater, or water of melted snow or ice, is generally all that can be desired.

The alkalies or alkaline compounds, which may be used for neutralizing the toning bath or making it slightly alkaline, are many. Within the past few months I have tried about thirty different ones and got a great variety of tones from reddish to brown, purple, and black of various tints, with the same paper. Perhaps more on this point some other time.

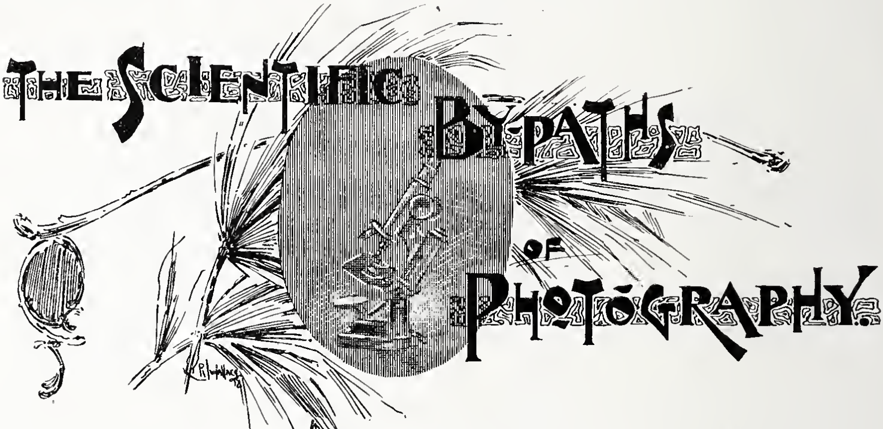
Last but not least, the printing paper. There are various kinds and several very good ones, glossy and matt. Without a really good paper, rich in silver, it is impossible to get good dark tones. I have tried a good many. With several I have had poor success; some are about all that can be desired. As about every paper has its own peculiarities, amateurs may do well to stick to some one good paper, or perhaps to two — one glossy and the other matt — and so learn how to work them well. This will give better satisfaction than to try one paper after another and keep on experimenting with new papers. Experimenting is all well within reasonable limits, but it is decidedly poor policy, if one desires to get certain good results.

John Gmeiner,
South St. Paul, Minneapolis.
November 8, 1898.

A SIMPLE INK PROCESS.

Take some *unsized* paper, or remove the size from a piece of good cream-wove writing paper, and coat with saturated solution of potassium bichromate. Let this dry in the dark — the more speedily the better; when dry, print upon it with a negative in the printing frame in the ordinary way. The picture will appear of a rich chestnut color. Fix by several changes of plain water — running water for ten minutes will do best — then immerse for about a minute in weakly acidulated water; three drops of hydrochloric acid in six ounces of water will do. Rinse the print again, and immerse for a few moments in a saturated solution of sulphate of iron.

The iron solution can be used over and over again. Rinse the print once more, and then float it in a dish containing a weak solution of pyrogallic acid, or, better still, gallic acid. In a few seconds the image comes up purplish black. When the shadows are dark enough, which will be in about half a minute, pour away the acid and wash the print till no free ink comes from it, when it may be dried between sheets of blotting paper. The purple black will change to a colder gray in about twenty-four hours. The process is best adapted for bold negatives. The presence of size in the paper seems to prevent any clear whites being left, while there is quite as much detail without the size.



THE SCIENTIFIC BY-PATHS OF PHOTOGRAPHY.

CONDUCTED BY
R. JAMES WALLACE.

IN beginning a new department on "The Scientific By-paths of Photography," it is our intention to present from month to month only such articles of quasi-scientific character as will interest the amateur — to make it, in fact, a sort of "filter and funnel" through which will be disseminated the thoughts and ideas of those interested.

We call earnestly upon such of our readers as may be interested to communicate to us their methods of work in scientific photography, what they have done, and how they did it — if accompanied by drawings or diagrams, however crude, so much the better.

Mr. R. James Wallace, who will conduct this department, is in every way fitted for the position, having given many years to chemical and scientific study, photographic research work and the like, and who is in possession of a very complete library and fully equipped laboratory, much of the apparatus of which has been the work of his own hands.

All interested are cordially invited to contribute.—ED.

FIRST STEPS IN PHOTOMICROGRAPHY.

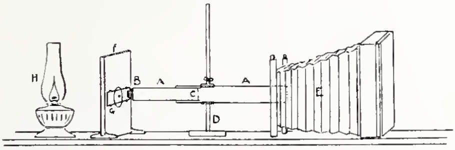
A wise man once said, "Of the making of books there is no end," but had he lived in these modern times he would have modified his saying to, "Of the making of photographs there is no end," and certainly he would have been correct.

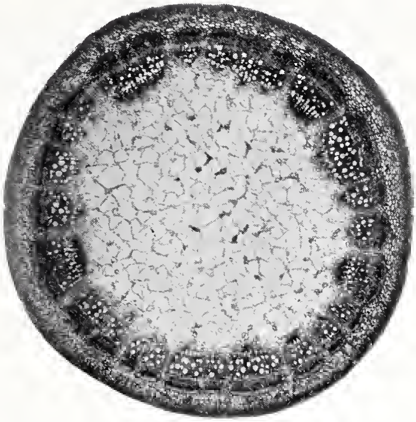
There are photographs and there are *photographs* — and unquestionably there is a great charm in the development and subsequent printing of a landscape, flower, or figure study. But how much greater pleasure there is in the development of a subject that is totally invisible to the unaided eye, only the man who engages in the photography of microscopic subjects has any conception. How many amateurs there are who are deterred from taking up this most fascinating branch only by the mistaken idea of the enormous amount of care and apparatus necessary. And it is the correction of this idea which is the excuse for this article. Certain it is, that anyone who has once approached this subject is forever charmed and forever an enthusiast; for who can resist the "photography of the unseen," and the clear exposition of life and beauty hitherto undreamed of, in the pools and marshes — in the insects and microscopic life — in the twigs and vegetable organisms around us.

Do not be deterred by the idea that to work in microscopy you will have to mortgage your home — the expenditure of a few dollars is all that is required to start with — and to the man who possesses a microscope and a camera of any kind, the material is all ready to his hand.

It is not necessary that high-priced instruments should be used — the writer has made many negatives (and the picture that illustrates this article was made) by a low power (cheap) objective, and two cardboard mailing tubes. Of course such apparatus is unsuited for high power photomicrography, but as a *start* it is perfectly good enough for such work as would necessarily interest the beginner.

A A are two cardboard mailing tubes of about one inch diameter and about six or seven inches long, sliding one within the other, which carry the objective *B*, screwed into a cork. *C* is a diaphragm about midway along the tube, ½ inch in diameter, made of cardboard. *D* is an ordinary retort stand and clamp, to hold the tube level with the center of the camera. *E F* is a ¼-inch board with a center hole of about one inch diameter, and of such a height as will necessarily bring it (the hole) on an axial line with the camera. *G* is the glass slide carrying the object, which is held against the hole in the board by four small screws, between which it slides, and *H* is an ordinary kerosene lamp. The diagram is so simple that it explains itself, and can be made easily in an hour or so. Try it and be converted to its use until such time as the financial horizon is clear and roseate enough to enable you to acquire a regular stand.





TRANSVERSE SECTION ROSE STEM.
(Gloire de Dijon.)

In a future paper I shall endeavor to explain in simple language the exquisite beauty of some of the most common objects for the photomicrographer.

R. James Wallace.

PROTECTING TABLES USED IN LABORATORY WORK.

There is an article in a recent number of the *Journal of Applied Microscopy* in which a method is given for giving an enduring black surface to tables exposed to rough usage as in laboratory work, and the formula on the face of it is so excellent, and the accounts given of its durability so satisfactory, that we have no doubt its usefulness will be equally great in photographic workrooms, if not, indeed, for some pieces of photographic apparatus. The method is in use in the Danish laboratories, and was described by Dr. Julius Hortman, and Professor Barnes gives the actual proportions of the ingredients as then employed, which are now given to our readers:

Solution No. 1.

Copper sulphate	125 grams.
Potassium chlorate	125 grams.
Water	1000 grams.

Boil till solution takes place.

Solution No. 2.

Aniline hydrochloride	150 grams.
Water	1000 grams.

Or, if more readily procurable,

Aniline oil	120 grams.
Hydrochloric acid	180 grams.
Water	1000 grams.

By means of a brush apply two coats of solution No. 1 while hot, the second coat as soon as the first is dry. Then apply two coats of solution No. 2, and allow the wood to thoroughly dry. A coat of raw linseed oil is next applied. It is best to use a cloth instead of a brush, so as to get only a very thin coat of the oil. The desired amount of polish is now given the wood by rubbing in the oil. In the treatment with the oil the deep black color is partially brought out, although this does not uniformly appear until the table has been thoroughly washed with hot soapsuds. This takes out the superfluous chemicals. The finish thus secured is an ebony black, which is permanent and very highly resistant to the action of chemicals such as acids and alkalies; even concentrated sulphuric acid having little or no effect if quickly washed off. . . . . "It is not only possible to treat new table tops this way, but old ones take nearly as good a finish. In this case the old oil or paint is planed off, and the surface is treated as new wood. The tables in the bacteriological laboratories here are practically in as good condition today, after use by students during two school years, as they were when finished."

NEW SENSITIZED PAPER FACTORY.

Chicago is now to be a center for the manufacture of sensitized photographic papers, as will be seen by reference to the Western Camera Manufacturing Company's advertisement in this issue.

EDITORIAL TABLE.

The Eastman Kodak Company, in response to many inquiries as to whether or not they published a simple book on photography, more especially with reference to their own products, have issued a very excellent handbook under the title of "Picture Taking and Picture Making," which ought to command a large sale. It is comprehensive and covers the technical side of photography very fully, but wisely refrains from loading it up with "advanced" scientific matter which to the ordinary individual is of little value and is apt to be confusing. In the technical side we are glad to see special chapters devoted to flash-light work, bromide enlarging and lantern slides. In the same line we are gratified to find that the publishers have called on such men as Alfred Stieglitz, Robert Demachy, Bernard Alfieri and James A. Sinclair, all of world-wide fame in photographic circles, to write special chapters on "Platinum Printing," "The Gum-Bichromate Process," "The Sensitizing and Use of Plain Papers," and "Carbon Printing." "Picture Taking and Picture Making" is printed on very heavy enameled stock, and is an excellent specimen of the printer's art. Price, in heavy cardboard covers, 50 cents; cloth bound, $1.

From Burke & James, 89 Madison street, Chicago, we have the pleasure of receiving something we have long sighed for, in the shape of a lantern-slide vise. It is fully described in their advertisement on another page, so we need not enter into particulars here, but we know that those of our readers who are lantern-slide makers will want one right away.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL, Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents.

All remittances should be sent by post office money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

Secretaries of photographic societies are requested to favor with brief reports of their meetings.

Subscribers advertising secondhand apparatus for sale or exchange, special articles wanted, help or situations wanted, *one insertion free.*

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
TRIBUNE BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 79 Nassau Street, New York.

VIVE INTERNATIONAL STEREOSCOPIC SOCIETY

Associate Editor,
E. C. PATTERSON.

OUR SOCIETY.

But six months ago we organized ourselves into the Vive International Stereoscopic Society, and in this short period, covering, as it does, about three months of gray weather, we have enrolled an active membership of 500 intelligent and hustling amateurs who have identified themselves with amateur photography for years past, and whose interest we are happy to have. It is our confident hope that within another six months we will have a membership of at least 2,000, and we have placed the active membership limit at 3,000, which will be the number that we will have inside of two years. The possibilities for mutual pleasure and profit in a society of this size are beyond the conception of any of us.

Next July we plan to have a stereoscopic exhibit at our rooms in Chicago, where we will show the results and efforts of the members who are now engaged in taking stereo pictures.

The one thing that is worrying us most is the fact that our members are not asking more questions and forwarding more suggestions, and we wish it to be distinctly understood that the columns of this journal are open to every member of our society, whenever their communication pertains to stereoscopic work.

Experience with our members has taught us that it is utterly impossible to try to explain the beautiful and charming effects of a stereoscopic picture when seen through a stereoscope, and we have, therefore, arranged to send out a sample stereoscope with three or four handsome stereo views, postpaid, upon receipt of 60 cents, to our members. This to our mind will be the means of creating a much deeper interest, not only among our members but among their friends, and we are confident it will result in much good for us all. There certainly is not a photographic "crank" who would not be the possessor of a stereoscopic camera if they really appreciated the beauties of stereoscopic work and the results that can be accomplished with such an instrument. In the past many have bought stereoscopic views principally of foreign subjects, and while these were pretty they had no real local interest or value. But when you realize that it is possible with a stereoscopic camera to produce home views and pictures of family groups and children, it will suggest ideas that possibly have never occurred to you before.

We have also made arrangements with the Vive Camera Company to furnish to our members or couponholders one of their stereoscopic cameras upon the payment of $2 down and $1 a month until paid. This has already proven a big thing for our society, and we sincerely trust that anyone who is contemplating purchasing a camera will avail themselves of this opportunity. As mentioned before, no one but active members and couponholders will be granted this privilege.

COUPONS AND THEIR VALUE.

We are daily in receipt of letters from couponholders asking us to explain what they are for, etc. These coupons are handed to you by a friend who is an active member of the society, and in the event of your purchasing a camera through the medium of one of the coupons, the friend who has given you same is entitled to $1 credit from the society, and in buying a camera the coupon-holder is made an active member and then is given twelve coupons to distribute among his friends. The society has found it necessary to resort to this coupon system for the purpose of attracting attention to its work and awaken among amateurs an active interest in this branch of photography, which has almost been forgotten by the masses through lack of some effective means of setting forth its wonderful advantages on a simple, economical and practical plan accessible to all amateurs.

CORRESPONDENCE.

Under this head we will publish from time to time such letters from our members as we think will be interesting and profitable, and we wish again to emphasize the statement already made that the members are not identifying themselves with our work closely enough. We cannot expect to have a flourishing society unless every member takes a personal and active interest, and if you only knew how you could help us with your encouraging letters we are sure that they would be forthcoming. Mr. Fred Felix, of Peru, Indiana, under date of December 7, writes a most interesting letter which we publish verbatim:

"I have just taken my first photographs with a new Vive stereoscopic camera, recently received, and, as I expected, I am delighted with the results.

"I am very anxious to continue, as rapidly as I can find time, to get a picture of everything I know of that is interesting.

"There is a wonderful charm and attractiveness in stereoscopic work, and its revival by the association should prove most popular with everyone who devotes any attention to photography. A stereoscope brings the most delightful naturalness and animation to the most commonplace views."

These are the kind of letters that we want, and we urge Mr. Felix to keep up the good work and let others take the cue from him and follow.

Messrs. J. P. Elliott & Son, of Payson, Illinois, have sent us one of the very finest stereo views that we have ever received at this office. It is a picture showing a drawing-room with a center table in the foreground and two ladies sitting in rocking chairs reading. In the distance is a hall or dining room showing a large mirror at the end through which a reflection of the operator at the opposite end of the drawing-room is plainly seen. As seen in the stereoscope this picture is simply beyond description; and moreover, they say that the friend who made this picture has some more fine negatives of interiors, exteriors and scenery. We have written to Mr. Elliott for the negative of this wonderful picture, and if it is forthcoming we will be glad to exchange or furnish prints to our members. We are slowly collecting a fine lot of different stereo views and will soon be able to furnish them in large or small quantities, as our members may wish.

STEREO EFFECTS AND RESULTS.

So much has been said in these columns regarding the true stereo effects that it seems almost a waste of space to say anything further in this matter, but inasmuch as we have lately received several so-called stereo pictures we are impelled to again give briefly the difference between a stereo picture and a single picture mounted double. Several weeks ago we received a very handsome "double mount" from one of the members of our society with a letter stating that he had produced a very handsome stereoscopic picture with a No. 1 Vive. To the uninitiated person it is hard to tell with the naked eye whether a picture of this kind is stereo or not, but the moment we read in his letter that this picture was mounted double it was enough for us to know positively that it was impossible to get any stereo effect, and by placing it in focus and looking at it through the stereoscope we found absolutely nothing stereoscopic about it. It was a pretty picture, but far from possessing the beauty and attractiveness that a picture taken with a stereo camera produces. In other words, it was flat and showed through the stereoscope nothing but a magnified appearance, while if it had been stereoscopically correct it would have produced a solidity and foreground that is marvelous. The editor of this journal, Mr. F. Dundas Todd, will bear us out in the statement that it is as impossible to get stereo effects from a double mounting as it is to see correctly with but one eye. Any of our members or friends who would like to see the different effects set forth above can write to us for the sample prints which we will be glad to send them if the cost is included with the request.

CORRESPONDENCE.

Elmdale, Minn., Dec. 12, 1898.

Dear Sirs,— Could one become a member of the Vive International Stereoscopic Society without owning a Vive camera? If so, I would like to become a member. I have an Adlake camera.

Yours respectfully,
Mary Davies.

Yes. Anyone who will interest themselves in the advancement of our society and its work can become a member. Our society was organized for the advancement of stereo work, and while we would like to give our attention to all branches of amateur photography, still we are not in a position to do so. An honorary membership has been issued you.

Arnold L. Duhig, of Jordan, Wyoming, writes he has found that a good substitute for a burnisher is a common flatiron heated to a moderate temperature. He uses a thin piece of tissue paper between the print and the iron and gets an excellent gloss.

If The Photo-Beacon belongs virtually to the Vive International Stereoscopic Society, I would suggest that you set aside a few pages to be known as "The Household," or some other suitable title, and let the members of the society write friendly letters to be published in The Photo-Beacon, signing as a name their membership numbers or a pseudonym, if they prefer the latter. Then, in summer, let a time and place be appointed, and all who can take a trip to that place and hold a kind of reunion. Each member should take his or her kodak or camera and magic lantern, and by means of taking pictures, giving magic lantern and stereoscopic entertainments, it might be possible that a clubhouse or building could be erected for which the society would pay, and then use as the society's exclusive property. Of course, it would take time and patience to do this. The idea is original with me, although such arrangements may have been suggested and acted upon by others.

With wishes for your prosperity, I beg to be, Very truly,

Lillie Oliver,
Oliver, Miss. No. 2209.

THE ANTI-HALATION COMPOSITION OF M. SOL.

The optical qualities that an ideal anti-halation composition should possess are now well understood. The substance should have a refractive index approximately the same as the glass of the plate, and the tint of the backing should be such as to rapidly extinguish photographically active light. In these optical respects, caramel is ideal, but, unfortunately, it has a peculiar and persistent stickiness, also a vitality in transfer and retransfer (as a lithographer might put it) which makes it almost certain that if caramel is used in the darkroom, some will ultimately reach the films of undeveloped plates. M. Sol, in a communication to a recent meeting of the Paris Société d'Etudes Photographiques, called attention to the special merits of india rubber as a backing. India rubber is a little inferior to caramel on the score of color, but this inferiority can be made good by mixing in a little ocher. The very great advantage of caoutchouc, when used as recommended by M. Sol, is the ease with which the backing can be removed, and the complete absence of mess or risk of contamination. A three per cent solution of highly masticated Para rubber in benzine is the basis; this solution, if properly prepared, being of about the consistency of decidedly thick enameling collodion. About as much very fine and dry ocher as there is rubber may now be incorporated, and the preparation is ready for use. To coat the back of a plate, M. Sol sets the plate in an ordinary printing frame, film next the pad (the pad, of course, being clean). The rubber solution is now poured on the back of the plate, and the excess is drained off by a lip cut in one corner of the frame. If care is taken not to pour on an undue quantity there is no inconvenient tendency for the viscous solution to run under the edges of the wooden rim; while the backing dries almost instantly, and can be removed at any time by gentle friction with the hand; the pigmented caoutchouc curling up into little rolls which fall away. M. Sol showed striking results obtained with his backing, and these, together with a demonstration of the convenience of working with the india rubber backing, elicited hearty cheers from those present at the meeting. As the india rubber backing seems likely to be the backing of the future — especially for plates sold already backed — we may say a few words about the kind of india rubber which is suitable, especially as references are occasionally made in photographic writings to the irregular and granular "washed sheets" as masticated rubber; these washed sheets being really the material in a stage prior to mastication, and a three per cent solution of the merely washed sheet would be too gelatinuous for convenient pouring. The washed sheet (rough, granular, and perforate) is obtained by repeatedly passing the crude rubber between milled or cross-cut rollers, over which a stream of water plays. Foreign matter is thus crushed and washed out, but the nature of the rubber is not changed. The masticator of Hancock is a device for powerfully kneading the washed rubber, during which operation it becomes hot, and it acquires the power of dissolving so as to form a more fluid solution. Those wishing to try the rubber-backing process would do well to obtain the fluid solution of highly masticated rubber of the right strength from a manufacturer— Macintosh & Co., of No. 1, Golden Lane, for example, a firm which has long made a specialty of rubber solutions of extra fluidity in relation to the percentage contents.— *The Amateur Photographer.*

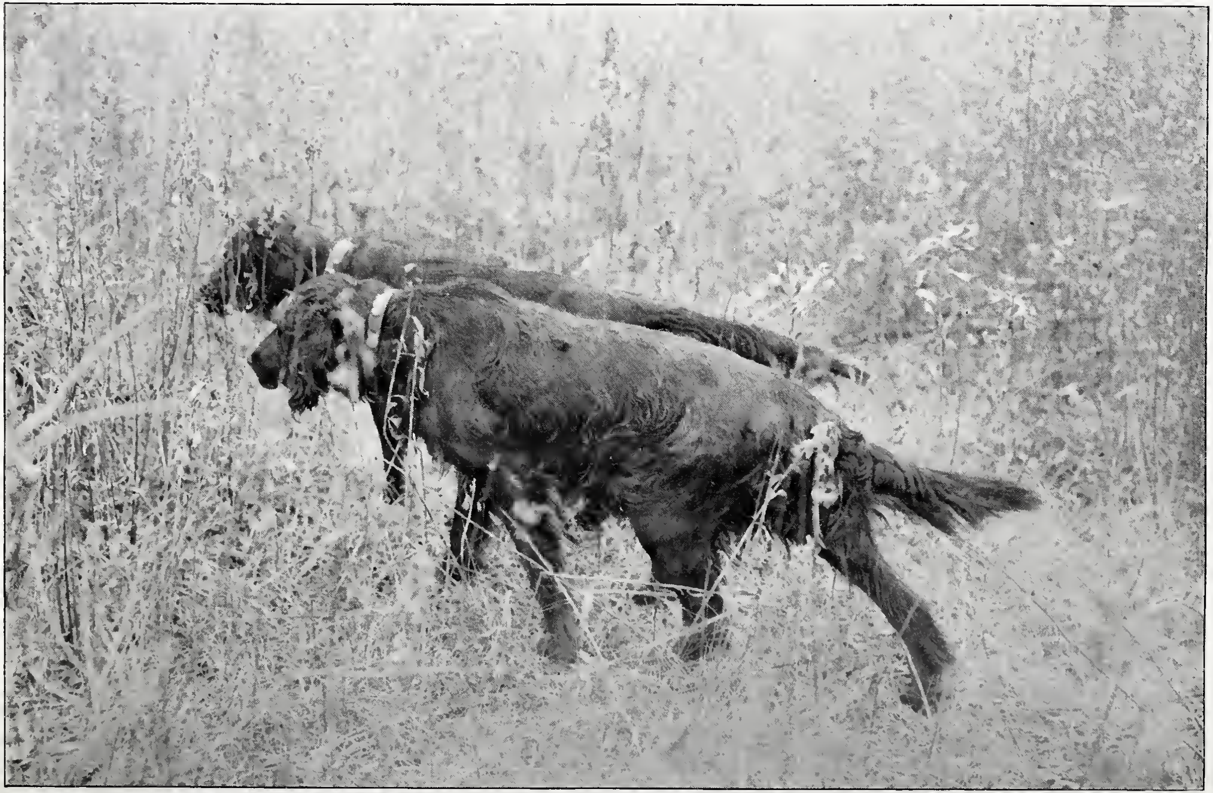
EXAMINING PRINTING.

There is a small matter worth adoption in printing-out. Aristo papers lie so close to the negative that unless one has good finger nails or resorts to blowing it is a little difficult to raise it to examine the state of the printing. Assuming one has a fourfold thickness of blotting paper as a pad behind the print, I interpose a speck of starch paste or mountant between the pad and the paper at the left-hand corner of each end. It need not be more than the size of a pinhead (for it spreads slightly when pressure is applied). This is sufficient to attach it to the blotting pad, which, on being drawn back, lifts the print with it. There is no trouble or loss of time in watching prints nor risk of scratching negatives with long finger nails. A paperknife easily separates the print from the pad when taken out.

POSSIBLE INFLUENCE OF A ZINC BOX ON PLATES.

At a recent meeting of the Berlin Club for the advancement of photography, Herr Haberlandt handed round some negatives on plates which had been stored in a zinc box. Although the plates themselves had been protected in paraffin paper, spots and markings corresponding to the folds and in-ways of the wrapping were noticeable; but at the meeting there seemed to be a diversity of opinion as to whether the faults were due to zinc vapor or to mold. At any rate, it is well to remember that it is now an established fact that clean zinc can give off vapors, which, acting on the film, produce much the same effect as if there had been an exposure to light.

"Let me say to you that your publications are all of them the best value of any in the country, in my humble opinion." N. C. Hawks.



Negative by H. E. Peck, Minneapolis, Minn.

"BUSINESS."

First Prize.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. FEBRUARY, 1899. NO. 2.

OUR FIFTH COMPETITION.

We are pleased to say that the "sporting picture" competition brought out some rather ambitious work, and must congratulate the winner of the first prize on his efforts, which is, we think, the finest thing of the kind we ever saw produced by photography. From the nature of the print it will be exceedingly hard to reproduce, and especially to show the fine "values" which are a marked feature.

The judges made the awards as follows:

First — H. E. Peck, Minneapolis.

Second — W. H. Lyman, Buffalo, New York.

Third — J. B. Pardee, Bound Brook, New York.

FUTURE COMPETITIONS.

Competition No. 7 — Snow pictures; closes February 28.

Competition No. 8 — "At Home" portraiture; closes March 31.

Competition No. 9 — Lantern slides; closes April 30.

Competition No. 10 — Branch of a tree without leaves; closes May 31.

Competition No. 11 — Interior pictures; closes June 30.

Competition No. 12 — Branch of a tree with leaves; closes July 31.

Competition No. 13 — Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15 — Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

Now, will our readers tuck in during 1899 and keep us busy? We have tried to introduce as much variety into our list as possible, so that everybody can find a place to come in somewhere and we expect shoals of pictures to arrive every month.

To enter for any competition all that is necessary is to send a print, properly mounted; and on the mount, either back or front, the sender must write his name and address, and on the package write "competition." The judging is done by three gentlemen, two of whom are artists and one an amateur photographer. One of the artists is himself a first-rate photographer. The editor never sees a print until the awards are made, so he never loses sleep when anyone kicks about the decisions.

The prizes are:

First — A complete set of our own publications.

Second — H. P. Robinson's "Pictorial Effect in Photography."

Third — "Amateur Portraiture at Home."

In lieu of the above prizes the winners may select an amount of equal value from our catalogue.

LITERARY COMPETITIONS.

Five years ago when we first sat down in the editorial chair we tried our hardest to secure contributions from American writers for The Photo-Beacon, but with absolutely no success. We found many people willing to write vague generalities, but we wanted articles wherein our readers would be told in plain and simple language how to do ordinary photographic processes. At last we gave up the effort entirely, feeling confident, however, that the time was not far distant when our wishes would be gratified. In 1898 we caught a glimpse of the dawn, and now that we see daylight coming we propose to give it every encouragement. Therefore, during 1899 we propose to have a series of literary competitions to which we ask every reader to contribute. We know that many men will hesitate about putting their ideas upon paper, being afraid that they will write something that will not be up to literary standard. To such we would say: "The editor will take care of the English language — that's his business." The standard by which the articles will be judged is "practical value."

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 1.—How to make a darkroom in the basement, and the best way to arrange it. Closes March 15.

No. 2.—How to make a toning tray cheaply. Closes April 15.

No. 3.—How to prepare a stock developing solution. No detail is too trivial for notice. Closes May 15.

No. 4.—How to get glossy prints by squeegeeing on glass or ferrotype, and how to mount the prints to retain the gloss. Closes June 15.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

THE CONSUMPTION OF SILVER.

The *Saale Zeitung* refers to the use of silver for commercial, manufacturing and other purposes, and points out that, while in most cases the metal is recovered and used again for other purposes, there are some industries in which it completely disappears. As a notable instance, it points to the manufacture of photographic dry plates. One German firm alone, in the course of ten years, has used 7,500 kilograms of silver nitrate in the manufacture of plates. This represents about five tons of pure silver. If we add the consumption of silver by other manufacturers of dry plates — and it must be remembered that there are larger factories in this country than in Germany — photography must have some influence on the production of silver.—*British Journal of Photography.*

[That's nothing. One of our American factories uses 2½ tons of pure silver in one year.—Ed.]

Although it is scarcely a year since we chronicled the addition of an entire new floor to the works of the Bausch & Lomb Optical Company, of Rochester, New York, they have just completed two new six-story wings to their factory and have installed an additional 350 horse-power boiler to furnish steam for extra machinery. Two years ago Bausch & Lomb thought their capacity was sufficient to meet any demand, but from present indications still further additions will be required.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

THE USUAL WAY OF LEARNING PHOTOGRAPHY.

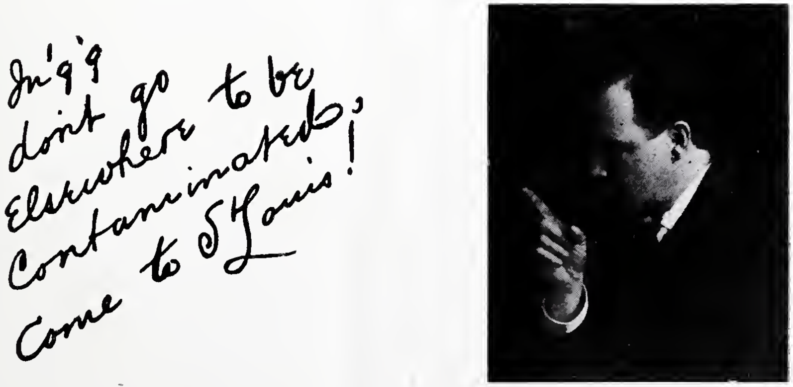
F. Dundas Todd, Esq.:

Dear Sir,—Inclosed please find a post office order for $2, and 50 cents in United States stamps, for which kindly send me The Photo-Beacon for one year, a copy of "Artistic Lighting," by James Inglis ($1), and Part I, "A Reference Book of Practical Photography," price 50 cents.

Now if you have written anything else, you can either send it along or write me as to what it is, and I will forward you the price.

Now, for a staid attorney, I presume you think that I appear to be a pretty soft thing! I acknowledge that I have only your word for it that the above are good and worth the price. But it came about in this way. In the course of my practice it became necessary to have a photograph of an immigrant on board of a steamer. So I secured a photographer, a hack, and the necessary passes. The hour and hack arrived, but no photographer, as he had secured a more lucrative job, although I was to pay him $3 per hour. In this dilemma my clerk suggested the use of a kodak. So we immediately drove over to consult a dealer with whom I was acquainted. Of course it could be done; he had just the thing — a dilapidated affair about one foot square. He arranged the mechanism so I would have nothing to do save to measure from the boy's nose to the lens, just six feet, pull out a slide, touch the button, and he would do the rest. He arranged the machine, we carried it most carefully, squared the boy six feet off, his back against a white partition, did as instructed, and were lucky in getting a fairly good likeness.

Within a week I again had need of the services of the kodak. I concluded that as he asked only $10 for the kodak, and as I was paying $1 per day rent for it, that it was the wisest policy to buy it. Then commenced my troubles. The first Sunday out I was forced to breast the strongest of winds for about four miles with that cumbersome machine, which appeared to weigh tons before the end of the journey. But I had eight beautiful exposures, and it was with great expectations that I took the old blunderbuss to the man who did the developing for my dealer. Plate after plate was developed, and, would you believe it, every individual tree and object looked as if it had moved. Some of the plates came out white and cloudy and some had two separate pictures upon them, and yet I had made only eight exposures and had carefully followed the instructions given me. I was very much disgusted, and heard with much pleasure the developer's opinion that some of the fault possibly lay in the old blunderbuss of a machine; also that he with his experience would look around and select a good machine for me. Two days later he informed me that my dealer had just what I wanted.



Jn'99
dont go Elsewhere to be Contaminated; Come to St Louis!

NEW YEAR'S CARD RECEIVED BY THE EDITOR FROM JULIUS C. STRAUSS.

I was satisfied that I was being jobbed in the price if not in the machine, but a greenhorn must expect that. However, as a precaution I went to a couple of other firms and priced such grades of instruments, and then examined the one selected for me. I got the dealer to have the clerk in his store take two exposures and develop them in my presence, and I took them home to dry, having prints made the following day, and found that I had a good picture, so I purchased the camera.

My new camera was light, and folded up into about 6 by 2½ inches, and with five light plateholders fitted into a neat leather case. The following Sunday I made ten beautiful exposures, and took them to my friend the developer, but found he had left the city. I was sorry to lose him, but there was nothing to do but have them developed by another operator. This man had professional as well as financial reasons for not giving me any more instruction than was necessary, so I then determined to learn how to do the rest myself, and to emancipate myself from such uncongenial company.

I went to my dealer, who sold me a developer containing about six or eight ounces for about 50 cents, some hypo which he instructed me to put in a large bottle with four times the quantity of water, some heavy glass developing trays and other necessaries, and gave me some instructions as to what to do. I broke one of the glass trays the first time I went into the darkroom. (I had had a darkroom built with a sink and shelves.) My dealer had given me a couple of books of instruction at my request for written information. They were good enough to give a greenhorn. I read them through several times, and knew practically nothing more than I did at first. Another dealer gave me a catalogue of an Eastern house, and from it I learned that there were journals upon the subject. I went to a couple of dealers and asked for a sight of a copy of a photographic journal, and was shown a couple of them. They were full of the doings of some insignificant persons from Texas to Bombay, contained columns of nonsense and ghastly photographic jokes. If the character of their editors and readers is to be judged by their inanities, and if they represent the caliber of the average amateur photographer, then a man with any self-respect should steer shy of them all. With all of this tommy-rot not one word of plain practical common sense instruction, as to what to do and how to make successful exposures and develop the plates properly. One dealer allowed me to peruse and examine about twenty volumes on photography, some of them ten years old. Their prices varied from 50 cents to $2.50. Some of them had interesting reading matter, that is for that silly class of American tufthunters who delight in the perusal of Tommy Tweedles' account of his distant relationship to Sir Bombast Boodle, by whose kind permission he was allowed to take pictures of a Scottish moor or a Welsh mountain. And owing to which relationship, if necessary, the gamekeeper would cut down and remove, root and branch, any offending tree which nature had failed to have the foresight to put in the right place. Another gives a long discourse as to the road to take to some old English abbey, which, judging from the picture, was far from worth the description or journey.

This search for information continued for about four or five months, during which time I ruined from three to four dozen plates per month as well as much paper, and wasted a lot of chemicals, or rather, prepared developers and toning baths. During all this time I never succeeded in developing a single passable negative without the aid of some other person.

One evening, while out for a stroll, I saw a drug store with a new stock of cameras, etc., so I walked in and started a conversation with the clerk. He spoke highly of Velox paper, and astonished me by rapidly developing a sheet. I bought the Velox paper and the ingredients for the developer. But I was unable to do anything with it as I had no negatives, having never been able to get a correct exposure.

As I left I asked him if he had anything in the way of reading matter or printed instructions. He looked around and picked up a poor little miserable pamphlet all covered with chemicals, which he pitched over to me with the remark, "Perhaps you can find something in that." From his words and manner I judge that he had had an experience similar to mine in finding anything worth reading in regard to photography.

After supper I took the poor little dirty pamphlet out of my pocket, and became interested in the first line—"First Step in Photography," also in the second, "A Book for Beginners in the Art." I devoured the introduction, and hurried rapidly on through the little wonder, never once laying it down until I had read every word, including advertisements. The next day I sent for a copy of your "Exposure Tables," and anything else written by you. I got the "Exposure Tables" and your "Second Step in Photography."

I carefully studied these three books, and as a consequence made my first correct exposure, following your instructions; and using the factor you give for development, I developed the plate, fixed it, and then printed my first successful picture.

In attempting to follow your advice, namely, to follow the instructions of the maker as to developers and toning baths, I found this difficulty: Dealers buy paper in gross lots and repack in dozen lots, and as the gross contains only one set of instructions, the repacked packages contain none.

Finding no instructions in the package of paper, I wrote to the Eastman Kodak Company for instructions, mentioning that I was following the advice given in your valuable little book. I did not have the same trouble with Seed's plates, but wrote them anyway, also mentioning your book, and advice. Both replied very fully and satisfactorily.

Had I run across your little and most valuable and indispensable books when I first commenced, I would have made a fairly good picture in a week; therefore, if you have anything else, I want it. I want everything you have yourself written on the subject of photography, for your books contain plain common sense, and are therefore invaluable.

Negative by W. H. Lyman, Buffalo, N. Y.

SECOND PRIZE.

With your "Photo-Beacon Exposure Tables" it is almost impossible to make a mistake in exposing the plate.

He who follows your instructions as to developing will seldom fail to properly develop his plate.

Then fixing, printing and toning are easy when your instructions are followed.

The worst thing I had to contend with

was getting a proper exposure, but your "Exposure Tables" make this a mechanical matter.

While I am willing to take your work without examination, I am skeptical as to others. An American who has seen the grand and beautiful scenery of his own native land is not prepared to wade through columns of nonsense as to the beauties of the back door of the stable of some ancient semi-barbarian lordling. The Adirondacs, Rocky Mountains and Yosemite have not been exhausted. And yet I would consider it a favor if you would give me a list of good books and papers upon this subject.

Hoping that you will excuse this long letter, I remain, very respectfully,

M. M. FOOTE.

PHOTOGRAPHERS' ASSOCIATION OF AMERICA.

MINUTES OF MEETING.

JAMESTOWN, N. Y., Jan. 9, 1899.

Meeting called to order at 4:30 P.M., with President Guerin in the chair; members of executive board all present. Treasurer's and secretary's reports for 1898 was read. Mr. Stein and Mr. Barrows appointed auditing committee to audit the secretary's and treasurer's accounts. Committee reported accounts correct. Treasurer's bond presented and accepted.

Moved and seconded that the president and treasurer be appointed a committee to confer with Mr. Broadhead in regard to renting of Auditorium, and all privileges connected therewith. Adopted.

Moved and seconded that a committee of two be appointed to take charge of issuing a souvenir of "Genre" studies. Adopted.

Moved and seconded that the present system of separating the territory of the association into five divisions be abolished. Adopted.

Moved and seconded that the territory be divided into three divisions, to be called the Eastern, Western and Southern divisions, as follows:

Eastern — Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, Maryland, District of Columbia, New Jersey, Ohio, Illinois, Indiana, Michigan and Wisconsin, and the Dominion of Canada and Newfoundland.

Western — Washington, Oregon, California, Nevada, Utah, Idaho, Montana, Wyoming, Colorado, New Mexico, Arizona, Indian Territory, Kansas, Nebraska, South Dakota, North Dakota, Minnesota, Iowa, Missouri and Oklahoma.

Southern — Arkansas, Texas, Louisiana, Mississippi, Alabama, Virginia, West Virginia, Delaware, Tennessee, Kentucky, North Carolina, South Carolina, Florida and Georgia. Adopted.

Moved that the 1899 convention be held July 17 to 22, inclusive. Adopted.

Moved and seconded that the recommendation of the committee, suggesting a system of cash prizes, and which was referred to the executive board with power to act, be laid on the table. Adopted.

Moved and seconded that the committee on prizes be limited to $150 for the purchase of the Grand Genre and Grand Portrait awards. Adopted.

Committee appointed to confer with Mr. Broadhead reported that the Auditorium at Celoron, with the additional privileges heretofore enjoyed, can be had at the same rates as charged for the convention of 1898.

Moved and seconded that the necessary steps be taken to secure the Auditorium in accordance with the above report. Adopted.

The following communication from American Aristotype Company was read:

Mr. F. W. Guerin, President of the P. A. of A., and Gentlemen of the Executive Board:

Judging from the large attendance and the great interest manifested at the sessions of the School of Photography during previous conventions, we are convinced that your members have found them profitable, and believe that they would like to have the school continued. We wish to state that we will do so if it does not conflict with any of your coming arrangements. We shall be pleased to confer with your Programme Committee that the sessions may be arranged to the best advantage of all concerned. Very truly yours,

AMERICAN ARISTOTYPE COMPANY.

Moved and seconded that the offer of the American Aristotype Company be accepted, and that the thanks of the board be tendered them with the assurance that the board recognizes their school as a most valuable aid to the success of the convention. Adopted.

The following committees were appointed:

Medals and Buttons — S. L. Stein, F. R. Barrows.

Transportation and Hotels — George B. Sperry, George W. Varney.

Exhibits and Decorations — S. L. Stein, F. R. Barrows.

Souvenir Book — F. W. Guerin, S. L. Stein.

Printing — George B. Sperry.

Programme — F. W. Guerin, George B. Sperry.

There being no further business, meeting adjourned subject to the call of the president.

George B. Sperry, Secretary.

The above report of the meeting seems prosaic enough and gives no indication of the long debates and discussions some of the questions brought up. Every member of the board gave frequent displays of his oratorical powers and sometimes in a very forcible and vigorous manner. The differences were of minor importance, however, and the minority always yielded gracefully when defeated. All were in perfect accord with the general policy of the administration, and each member has taken up his duties with a vigor and an enthusiasm that is sure to produce good results.

Perhaps some explanation is due the Association in regard to the recommendation that cash prizes be offered in place of the usual honorary awards. Your executive board found, from inquiries directed to all parts of the country, that the sentiment of the members was very decidedly against such an innovation, so the matter was tabled as per item in the report.

The list of awards was arranged after the most careful consideration and a close study of the statistics of entries and awards for the past few years.

LIST OF AWARDS.

Grand Portrait Class.— Six pictures, sixteen inches or larger. First award (to be chosen later); second award, diploma. Competitors cannot enter any other classes except Grand Genre and Miniature classes.

Negative by the late Dr. Huzza, Atlanta, Ga.

PANORAMIC PICTURE.

Grand Genre Class.— Three pictures, sixteen inches or larger. Subject to be chosen by the photographer, and the title to be appropriately inscribed on the picture. First award (to be chosen later); second award, diploma. Competitors cannot enter any other classes except Grand Portrait and Miniature classes.

DIVISION CLASSES.

Competitors can enter but one of the three division classes, but can, in addition, enter any two of the general classes.

Class A.—Twelve pictures, fifteen inches or larger. First award, gold medal; second award, silver medal; third award, diploma.

Class B.—Nine pictures, nine inches or larger. First award, silver medal;

second award, bronze medal; third award, diploma.

Class C.—A rating competition. Twelve cabinets only. Must be framed in one frame. To the exhibit receiving the best rating, silver medal, and to all deserving exhibits, a bronze medal.

GENERAL CLASSES.

For open competition, for all members of the association.

Miniature Class.—Eighteen pictures, smaller than cabinets, suitably framed. First award, gold medal; second award, silver medal; third award, bronze medal.

Group Class.—Four pictures, nine inches or larger. First award, silver medal; second award, bronze medal; third award, diploma. Groups must not be combined from separate negatives.

Landscape Class.—Nine pictures, nine inches or larger. First award, silver medal; second award, bronze medal; third award, diploma.

Marine Class.—Nine pictures, nine inches or larger. First award, silver medal; second award, bronze medal; third award, diploma.

Interior Class.—Nine pictures, nine inches or larger. First award, silver medal; second award, bronze medal; third award, diploma.

Commercial Class.—Twelve pictures, nine inches or larger. First award, silver medal; second award, bronze medal; third award, diploma.

Foreign Class.—Best collection of photographs of any size, framed or unframed, to be delivered to the association free of charge. First award, silver medal; second award, bronze medal; third award, diploma.

RULES AND REGULATIONS.

1. No exhibitor can compete in more than three classes.

2. All competitors must be members of the association except in foreign class.

3. When one dimension of picture is given, it applies to the entire length or breadth of picture in all cases. This rule applies to size of print and not to mount.

4. All exhibits must be framed without glass. In framing exhibits in Class C and in Miniature Class, put all pictures in one frame. Any exhibit not framed will not be hung.

5. All exhibits must be delivered in Jamestown, New York, care of the Photographers' Association of America, by July 9, and all charges prepaid.

6. Application for space in the art department to close positively Monday, July 3. Applications for space in this department must be made to S. L. Stein, first vice-president Photographers' Association of America, 126 Wisconsin street, Milwaukee, Wisconsin.

7. All exhibits of pictures must be addressed to S. L. Stein, first vice-president Photographers' Association of America, Jamestown, New York, and all charges prepaid. In case charges are not prepaid the association will not accept the packages from the express company.

8. Exhibits for dealers and manufacturers' department to be shipped to George B. Sperry, secretary, Photographers' Association of America, Jamestown, New York, charges prepaid, and must be placed in position by July 15.

9. Have your box covers screwed instead of nailed. Your home address must be marked on under side of cover for return of pictures. Association will not be responsible for pictures not so marked. Put screw eyes and picture wire for hanging in box.

10. All boxes and packages will be accepted at any time previous to July 15, so that photographers need not feel any uncertainty about the safety of their goods. No exhibits will be allowed to be removed from the hall until the close of the convention.

11. No manufacturer, dealer or their representatives shall do business on the floor of the hall unless he or they rent floor space or desk room.

12. No exhibit shall contain any name or marking that shall, in any way, reveal the identity of the exhibitor.

13. All entries for competition must

be for prints from negatives made since the last convention.

Extract from Constitution.

Membership.

Section 5. Any person who is eligible may become a member of this Association by making application to the Treasurer, and paying an initiation fee of $3, and annual dues of $2 in advance.

Sec. 6. Employes will pay into the treasury their annual dues, the sum of $2. No initiation fee is required.

Application for membership should be made to George W. Varney, treasurer Photographers' Association of America, 3937 Drexel boulevard, Chicago.

(Signed) F. W. Guerin,
S. L. Stein,
F. R. Barrows,
George W. Varney,
George B. Sperry,
Executive Committee.

PHOTOGRAPHERS' ASSOCIATION OF IOWA.

Missouri Valley, Iowa,
January 16, 1899.

Photo-Beacon Company:

Gentlemen,—The ninth annual convention of the Photographers' Association of Iowa will be held in Des Moines during the second or third week in May, 1899. Our conventions have always been interesting, and the members enthusiastic and progressive. This year the prospects are bright for an unusually large attendance.

Five hundred and thirty-five copies of the Souvenir Programme for our 1899 convention will be mailed to the photographers of our State about two weeks before the meeting, and for this programme we solicit a limited number of choice advertisements, our rates being as follows: Full page, $5; half page, $3.

Copy and cuts should reach me by March 1. We hope we may have the pleasure of giving space in our programme to a few well chosen words in praise of your goods. We also invite the manufacturers of plates, paper, backgrounds and apparatus to make exhibits at this convention. We especially desire all our old friends to meet with us again, and also extend to other manufacturers of, and trade agents for, useful devices and processes, a most cordial invitation to be present and demonstrate the merits of their wares.

For further particulars and in regard to rates for wall and floor space, I would invite your correspondence.

Yours very truly,
W. O. Reed, Secretary.

THE NEW COVER.

Many comments have reached us regarding our new cover, but all are complimentary with one exception, and this struck us as being so clever that we take the liberty of printing it, and feel that our readers will enjoy it as much as we did:

Riverside, Cal., January 16, 1899.

Mr. F. Dundas Todd, Chicago, Ill.:

Dear Sir,—Was ist los mit Photo-Beacon? Have you consolidated with some publisher of Bad Boys' Libraries, or are you trying to depict in allegoric form the horrors of strong drink?

On your January cover I find a startling revelation of Darkest Chicago. Bloody Dick, the Cut-throat, sneaks along a dingy alley on a foggy night. In his right hand he clutches a cash box which he has just wrenched from the dying grasp of his last victim. With his left hand he conceals under his coat-tail a loaded pistol. But Halsted street whisky has done its work! Bloody Dick staggers and reels in the agony of delirium tremens! He is haunted by visions of cow-skulls perched on bean poles, following him to accuse him of his crime. Another cow-skull and an overgrown scorpion tug away at the cash box, while three more scorpions are trying to crawl up his left leg. At this moment he bumps his head against the sign "Photo-Beacon," which brings him to his senses and also to the realization that he is discovered and stands in the full glare of a detective's dark lantern!

What, oh, what has this blood-and-thunder illustration got to do with photography or the Vive International Stereoscopic Society? Is it "yellow journalism" or indigestion which leads Photo-Beacon to adopt the nightmare variety of "art," with jaundice-colored paper and a brand of printing ink that smells to heaven? Sure as you're born, Mr. Todd, you ought to take something for that. Respectfully yours,

John C. Mahin.

J. H. McClanahan, Kirkwood, Illinois, asks:

1. How can you tell how long to develop a plate? *Answer.*— Follow the Watkins method described in "First Step in Photography," also in "Second Step in Photography."

2. What is the best way to dissolve 2 ounces of borax in 8 ounces of water? *Answer.*— The solubility of borax is 1 ounce in 2 ounces of boiling water, but it takes 13 ounces of cold water to dissolve the same quantity. So that 2 ounces will readily dissolve in 8 ounces of boiling water, but as the solution cools the greater part will crystallize out.

3. What is a good formula for making a retouching varnish? *Answer.*— We could give you a dozen, but know you will find it cheaper to buy a small bottle, which will last an amateur for years.

A CHEAP RETOUCHING DESK.

As a retouching desk is a *sine qua non* to all photographers who practice portraiture, whether professionals or amateurs, the following instructions for constructing an effective and cheap desk may be found useful, especially in these hard times when money is scarce and competition is so great.

The tools required are of the simplest description, and few in number, being a hammer, bradawl, and screw-driver.

First, procure three ordinary school slates of a fair size, say 12 by 10, push out the pegs which hold them together at the corners, and remove the slates.

Now take two pieces of stout cardboard, and, having trimmed them to the correct size, frame them up in the same way as the original slates. A little good hot glue at the corners will be a great improvement, as it will prevent the frames having the rickets.

If the worker has a few carpenter's tools handy, the cardboard can be replaced by wooden panels, which will add further to the stability of the article.

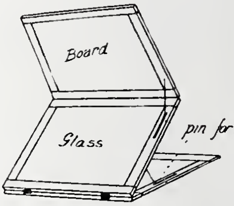
You take the other frame and fix in, in the same way, a piece of fairly strong glass, either plain or ground, but if ground is used, see that you get it with a fine grain.

The three frames are now hinged together with small brass hinges, so that when opened they form the letter Z, the glass, of course, being in the middle.

The hinges will look better if flush with the wood, but this can be left entirely to the taste of the maker, as it is more a matter of appearance than practical utility.

The struts for keeping the desk open may be made of quarter-inch iron; one end of each piece should be hammered flat on both sides, and a hole drilled through.

Grooves are now made in two of the frames to take the struts, and pins are driven through the frame and hole in strut to keep them in place.



After a few holes have been bored half-way through the frames for the struts to catch in, the whole thing may be blacked with any of the numerous preparations now in the market, or with lampblack mixed with French polish, and a serviceable, respectable-looking piece of apparatus will be the result. Several cards with different sized openings should be made to cover up the glass when retouching heads. It is better to have loose pieces than to have a fixed and only aperture, as you can use one to suit the work in hand; and for blocking out skies and spotting landscapes the whole space is still available. For reflecting the light through the negative some prefer a mirror, others an opal plate or white paper, but a paper of a pale blue tint will be found to give sufficient light for most negatives, and will not tire the eyes as much as either of the others would do, and the care of the eyesight is very important.— *The Photographic News.* R. S. Hill.

FLASH-LIGHT POWDER BLOWS A MAN'S HAND OFF.

When will photographers learn that flash powder must be treated with as much consideration as gunpowder? About the middle of December an amateur in Paterson, New Jersey, placed a quantity of powder in a saucer and ignited it by lowering into it a lighted ball of cotton soaked in alcohol. A loud report followed. The operator had his left hand blown off and the arm so smashed that it had to be amputated above the elbow. The "loud report" indicates that a considerable quantity — at least an ounce — was used, and the result was just what would have happened had gunpowder been used. We have on occasion fired off as much as a couple of ounces at one time with a lighted match, but took mighty good care that the match was at the end of a four-foot wire, and that our hand was considerably below the level of the powder. Even with these precautions we have felt quite a hot blast at the moment of explosion. Another point, with such a quantity of powder we always open one or two windows even in a fairly large room, as if that is not done the concussion is apt to smash the glass.

A HOME-MADE FLASH LAMP.

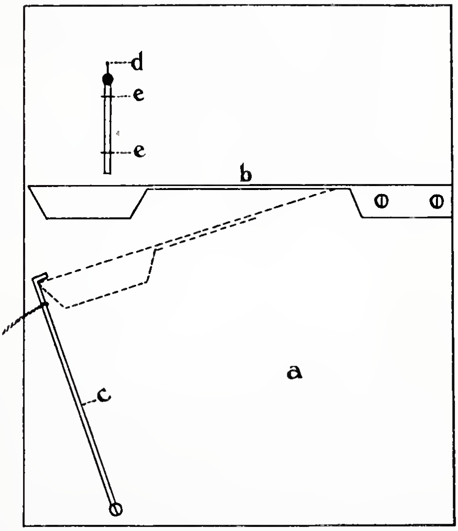
Those of us who are not blessed with a superabundance of this world's goods sometimes find amateur photography a little expensive, and cannot buy all the apparatus we would like to have. But by using a little ingenuity and material at hand we can often accomplish the desired end with trifling expense.

Lately wanting to get a picture of a child seventeen months old, which anyone who has tried it knows is a hard subject to photograph indoors with a slow lens, I had to resort to flash-light powder; and in order to catch the expression of the instant some kind of an apparatus for lighting the powder at just the right time was needed.

In looking over my catalogues of photographic supplies I found that a lamp for this purpose cost anywhere from $1.50 up. That was out of the question; I must make one myself. While experimenting with matches as a means of igniting the powder, I found that, by laying my open penknife edge up on the table and holding a "parlor" match in a vertical position with the head against the knife blade, then giving the match a sharp rap with a light hammer so as to split it, it gave an instantaneous flash of the match. It seemed to "go" with more decision than when struck on sand-paper in the usual way.

This gave me an idea on which to work. All that was necessary then was to contrive an arrangement for holding a match with the head against a sharp edge; a spring hammer; a trigger to hold the hammer back, and a string by which to pull the trigger.

The following crude drawing will help to show what I got when I put together a few things such as anybody can pick up.



A is a board 8 by 10 inches in size and 1 inch thick. B is a spring, made of hickory wood 1 inch square cut thin in the middle but left full size at ends; one end for screw holes, the other to give it more striking weight when it hits the match. The spring is drawn back in position indicated by dotted lines and held with trigger C, which is a wire bent into the form of a short hook at one end and at the other an eyelet by which it is fastened to the board with screw. A string is tied to this wire near the hook end by which to pull it off. At D a headless nail is driven into the board but left protruding one-fourth inch. This end is then filed thin, for against it the match is to rest in such a manner that when hit with the spring B it will split and instantly ignite. The match is held in place by two slim nails bent into the form of staples.

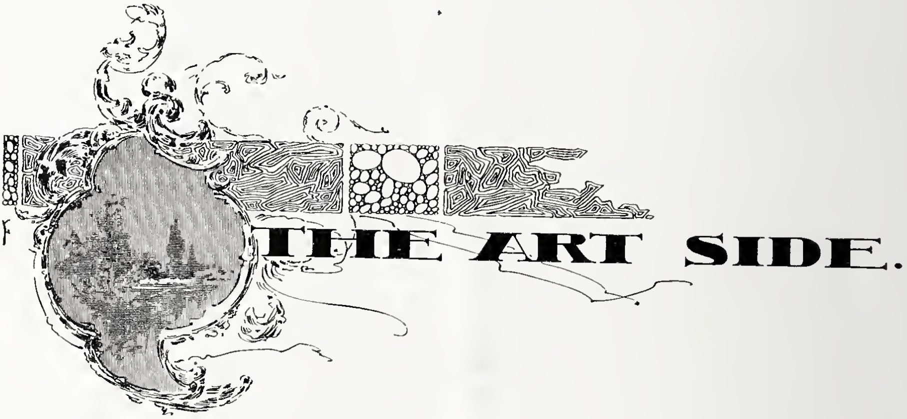
This completes the machine. Could anything be more simple? Three nails, three screws, two bits of wood, a piece of wire and a string.

I don't recommend it as a magazine lamp, nor yet as one that can be carried in the vest pocket; but for cheapness, and for instantly igniting the powder, thereby catching the expression wanted, it can't be beaten.

Now a word as to its use. Place a box or chair on top of a stand or table and lay the igniter on it; put match in position, set the hammer and pour out the flash powder on and around the head of the match, and all is ready.

JAMES E. TAGGART.

Lewis Center, Ohio.



THE ART SIDE.

THE FLOWER PHOTOGRAPHER'S BASIL-POT.

"O cruelty,
To steal my Basil-pot away from me."

It was a good and hopeful sign for the flower photographer to see so many examples of flower studies at the last exhibition of the Royal Photographic Society. There were some very good specimens on the walls, and quite a number of transparencies. Flowers have so long been neglected subjects that one welcomes them in almost any form, and is not inclined to be critical. Still, with due deference to the difference of taste and idea, the question intrudes itself: "Why must there always be the inevitable vase?" Flowers do not grow in vases. A vase speaks plainly of a room; some place under cover, the light shut out by walls and ceiling; not the bright, sunshiny open air, with the blue sky overhead that one associates — or wishes to — with flowers. A vase seems to rob them of their poetry, and it always seems a pity to make it so obvious that their little lives are over and they are growing and living no longer.

A casual person might remark flowers were easier to photograph when tightly set up in a vase. But away with such an ignoble suggestion! Surely the worker with enough daring enthusiasm to reproduce flowers without their color would not consider a little trouble. The most probable theory is that the flower photographer likes his vase, and thinks it an improvement to the flowers. He is probably aiming at a still-life composition. But there are other things that seem more in harmony with flowers than vases, and which do not spoil the naturalness; there is fruit, birds' nests, or mossy stones. I have even seen an old gardening glove and a trowel used with good effect. There is, too, the bit of earth where the flowers grow, that is sometimes broken up and overgrown enough to be pictorial.

Flowers are really just as easy to photograph without a vase, and are a good deal more likely to look graceful. If cotton is procured the same color as the background, the subject, be it branch or flower, can easily be suspended. More cotton tied on to its extremities and pulled to the sides can easily alter the pose. If the cottons show where they are made fast they can easily be painted the same color as the stem. In this way the subject can be photographed in any position, which in flower study is important, as form and lighting play such great parts. This altering the pose of a flower with cottons may sound a more artificial way of going to work than simply planting the flowers for good and all firmly in a vase, but it has a better case, for Nature may have meant her twig to take a certain twist, where the cotton has coaxed it, and she may also have intended a leaf to fall just where the scissors helped it, but we can say with the utmost certainty she never would have put her ornaments into a vase.

In the good time that is coming, when the flower photographer ceases to cling, like Keats' Isabella, to his Basil-pot, there will be all sorts of fresh developments. Then the brain will be taxed and the long-slumbering originality awakened to think out poses and designs for flower studies. Then will the examples take quite a new position at the exhibitions, becoming honored work, pictorial and decorative, instead of being damned by that faint praise, "Interesting from a botanical point of view."—*The Amateur Photographer.*

Carine Cadby.

THE LANTERN.

LANTERN SLIDES BY REDUCTION—A FOCUSING DEVICE.

It is generally admitted that slides made by reduction are better than those made by contact printing.

Whether we use daylight or artificial light as our illuminant, it matters not, so far as the preliminary act of focusing is concerned.

The device about to be described may not, to the experienced lantern-slide maker, show signs of originality, but many a beginner will find it helpful, as I did, when first I practically adopted the idea.

Take six pieces of ground glass, the same size as a lantern plate, and fasten with any strong mountant a different-shaped mask on the plain side of each piece of glass. These are the focusing screens.

As soon as you are ready to commence operations, place your negative inverted in the negative holder and focus, using the screen with the mask which the finished slide will have.

A word of warning. Always allow the picture to be a trifle larger than the mask to insure it covering entirely the edges of the picture, so that no white line be visible between the edges of the picture and those of the mask.

This method of focusing saves a great deal of trouble, and enables the operator to correctly center his picture, a very troublesome point with the novice lantern-slide maker.

Eustace B. Beesley.

"Second Step in Photography," price 50 cents, can be got from any dealer, or from The Photo-Beacon Co., Chicago.

CHEAP ASTRONOMICAL SLIDES.

It often happens when preparing to deliver a lecture on astronomy that the particular slides of "stars" that one wants are not published, or are expensive to obtain. Slides of "stars" for amateurs' lectures may easily be prepared as follows: Cut a piece of flat stiff cardboard to the size of a lantern slide, bind the edges with lantern slide binder. Now dot on the card with a pencil the positions, groups, or "constellations" of stars you wish the slide to illustrate, copying them from books or star maps. Now take a clean, sharp-pointed needle, and resting the opposite edges of the card on two books, prick through the dots marked. Stars of small magnitude may be represented by fine dots, and those of larger magnitude by larger pricks. Placed in the lantern carrier in the usual way these prick holes will "shine" on the dark screen like "stars," and diagrams, constellations, star clusters, double stars, etc., may thus be easily and inexpensively shown.

Sometimes one wants to show a diagram of the comparative size of two heavenly bodies — for instance, of Jupiter and the Earth. The thin wood of cigar boxes makes excellent material for these slides. Cut the wood to the usual size of a lantern slide with a fret saw, and having drawn the different-sized circles side by side with a pair of compasses, or by coins approximating to the diagrams as you see them in the astronomical text-books, get a friend who has a fret saw to cut around the pencil marks, and the circles will show as white disks on the screen. The slides thus made are not only inexpensive, but practically unbreakable. Esp.

INTERESTING SLIDES.

A half-dozen very interesting lantern slides might be made, showing characteristic formation of the crystals of the more common photographic chemicals, such as nitrate of silver, sulphite, carbonate and hyposulphite of soda, bromide of potassium, alum — which series would represent the dry-plate and development group. They could be crystallized on a sheet of glass, and copied lantern size by backing same with a piece of black velvet, as in taking frost pictures from windows. A collection of lantern slides should certainly include a couple of examples of the latter, which are often exceedingly beautiful.

If the crystallization is allowed to perform slowly, a regular arrangement of particles will be observed; but if same be rapid, they will assume an irregular form. R. W. K. G.

PURPLE TONES ON LANTERN SLIDES.

The following method for producing rich purple tones, like those of a well-toned piece of P.O.P., cannot be excelled.

Make up the following solutions:

A.

Glycin	15	grains
Carbonate of soda	¼	ounce
Potassium bromide	10	grains
Water	8	ounces

B.

Sulphite of soda	2	ounces
Pyro	2½	drams
Water	12	ounces
Sulphuric acid	6	drops

The lantern plate, which should receive the correct exposure, is immersed for half a minute in, say, 1 ounce of solution A, and then ¾ ounce of solution B is poured on, causing the image to appear in all its vigor and beauty.

If the solutions are mixed before developing, the tones are not so rich. The developed positive is rinsed under the tap and fixed in an acid fixing bath.

The above method is well worth a trial, as the troublesome after-toning of the slide is done away with.

R. A. H.

A LANTERN TIP — IMPROMPTU SLIDES.

It frequently happens when giving a lantern show to friends at home that you want to throw some reading on the screen for which it is not worth making a slide, such as wishing any person many happy returns of their birthday, happiness to a newly married couple, etc. Take a clean cover glass, and, by means of a candle or wax match, smoke one side evenly until quite black, then take some sharp-pointed instrument (pair of compasses, for instance), and write rather small whatever you want, taking care to leave sufficient margin so that you get it all on the screen. If put carefully into the carrier, it is not necessary to cover it. J. W.

DANVERS, MASS.

MR. EDITOR,— I keep a stock of cameras and supplies, and many of my customers say they do not want a focus camera, but a "fixed focus." What kind of an argument do I want to make in favor of the focusing camera?

Yours, JOHN W. BABBITT.

Answer.— The arguments in favor of a focusing camera are: (1.) That a "fixed focus" instrument is limited in its possibilities. For instance, one cannot get a sharp image when the object is nearer than say ten feet, so that it is not possible to get a fair-sized head when a portrait is wanted. (2.) It is limited to slow-moving subjects, for it is impossible to take anything moving faster than a slow walk, as the shutter speed cannot be much over one-tenth second on account of the small diaphragm. (3.) It is almost impossible to get a decent interior portrait with an instrument of this character, the exposure even on a bright day being somewhere about a minute.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

(Copyright, 1898, by F. Dundas Todd.)

IV.

In the foregoing chapters we have learned the principal points of "composition by line." But lines alone do not suffice, for a picture may be handled correctly so far as the formation is concerned and yet be utterly spoiled by the lighting.

Light and shade place in the hands of the intelligent photographer the means of subduing what is unseemly or mars the picture, and of bringing into prominence what is more worthy. *Shade* properly handled in a picture should produce agreeable arrangement, just as much as do lines.

Of course it must be understood that it is not my intention to treat of all the rules of "light and shade," but only to touch ever so lightly upon a few of the more easily definable points as they

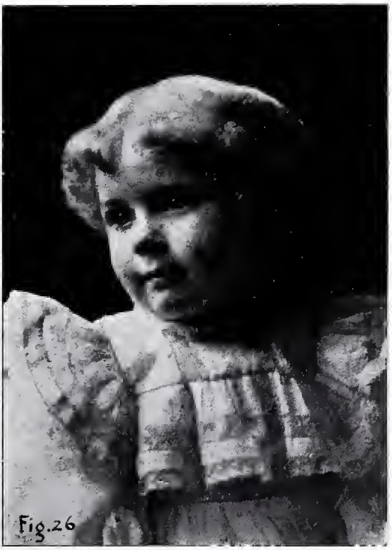


Fig. 26

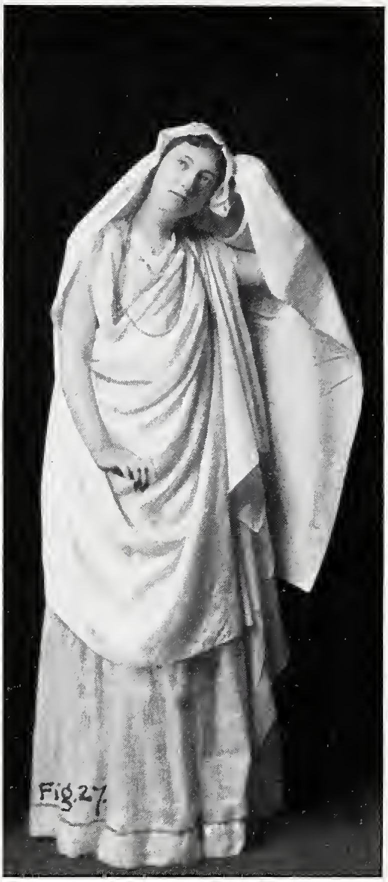


Fig. 27.

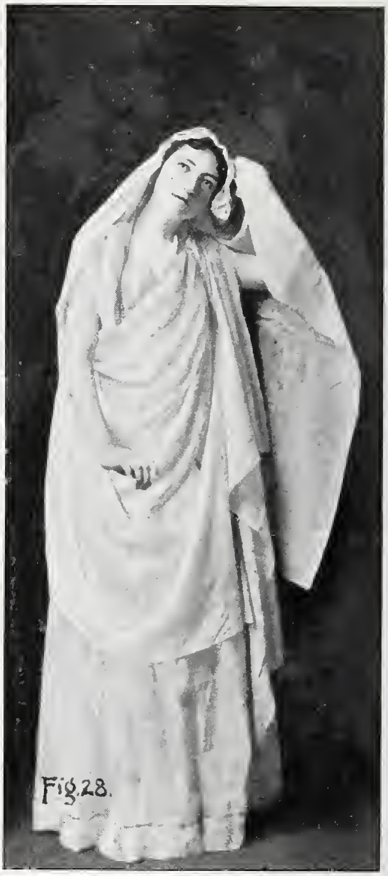


Fig. 28.

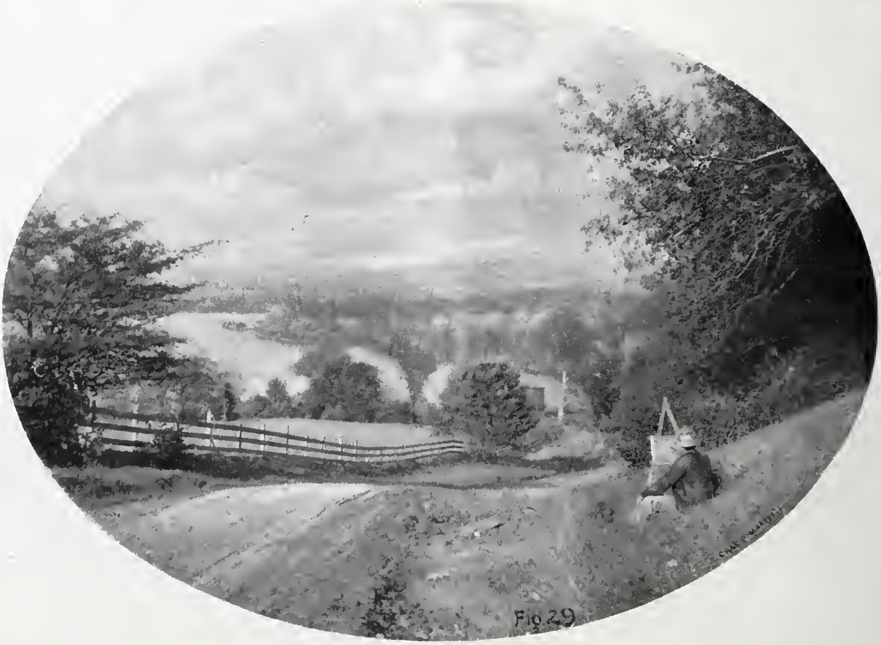


Fig. 29

directly concern the photographer, and even then it will be a subject as difficult to handle as would be the attempt to give a clear exposition of the term "feeling" in a picture. So, therefore, it is only of the more evident and palpable combinations that I shall speak.

The uses of light and shade may be confined to three principal points :

1. Relief.
2. Harmony.
3. Breadth.

The first suggests the distinctness and solidity of nature ; the second, the union of one part with another, and the third — general breadth — is the necessary attendant upon extent and magnitude, and it is by the judicious management of all three that we constitute a *good* picture. Too much relief gives "hardness," where we see that the relief given the top of the head in Fig. 26 resembles only snow ; and again in Fig. 27, where the extreme contrast between the delicate softness of the drapery and the inky blackness of the background makes the whole picture appear hard and flat. How much better would it have been had the background been treated as in Fig. 28. Too much softness gives "insipidity" and "woollyness" (Fig. 29), and too much breadth gives "flatness" (Fig. 30).

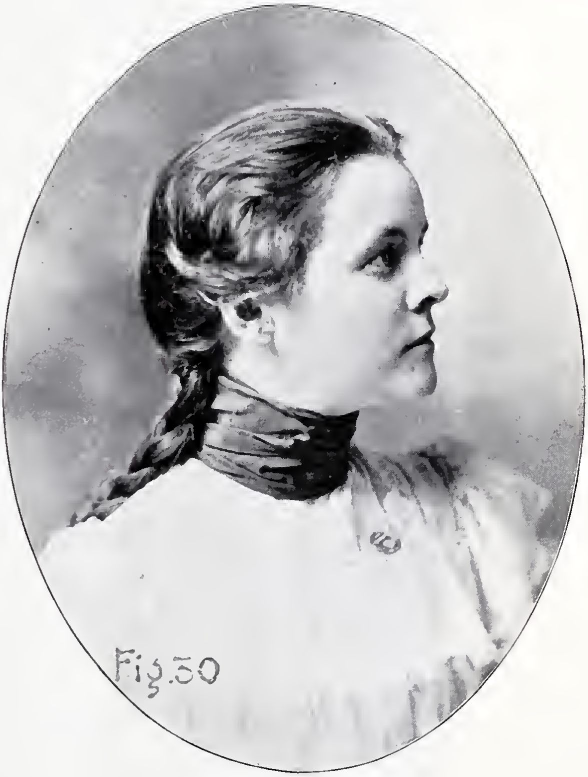


Fig. 30

Now the first point — relief — is most necessary in large work, because in a large picture the general effect is what is (or should be) studied for, for it is not meant to be examined in close proximity to the eye, and therefore demands strong relief to save it from "tameness" and "flatness."

Harmony is the uniting of the two extremes of light and darkness by intermediate gradations; while breadth is attained by a greater spread of half-lights and pure lights — the greater absence of "darks," the latter where they do occur being usually rendered sharp and cutting.

If we have a picture composed principally of light and half-light, the darks will have more force and point, and the whole effect will be feeble (see again Fig. 30); and when, on the contrary, it is composed principally of darks and half-darks, the lights will appear more brilliant, but the general effect is apt to look "spotty" and in danger of becoming black and heavy (Fig. 31). When it consists only of middle tints, it will appear insipid and tame. The softest and sweetest repose is obtained by combining a pure white and a pure black with all their soft and varied tints and shades. Fig. 32 is a beautiful example of this softness and repose, where all the tones and shades are blended, where everything from the highest light to the deepest dark fits into its place in natural sequence.

The influence of shadow is great, because when carried beyond the middle tint, in general effect it produces grandeur and majesty, and leaves the imagination to assist the eye in forming an idea of the whole (Fig. 33). Take, for example, a tragic pose, or one of a figure heavily and darkly draped; such is best represented by having no sharp and cutting high lights, as their presence would mar the otherwise good effect. Then, again, there are times when a picture low in tone is apt to look heavy and dull, unless the high lights are crisp.

In this class of work a small light has its advantages over every other if kept within due bounds, as it gives a rich tone to the work without appearing heavy. Remember, always, that "darkness" and "blackness" is not "depth." There should be just as much delicate gradation in the region bounded by dark and half-dark as there is in that bounded by light and half-light. Make it a rule always to handle your "light" or "shade" in such a way that the balance of the picture is not disturbed or destroyed.

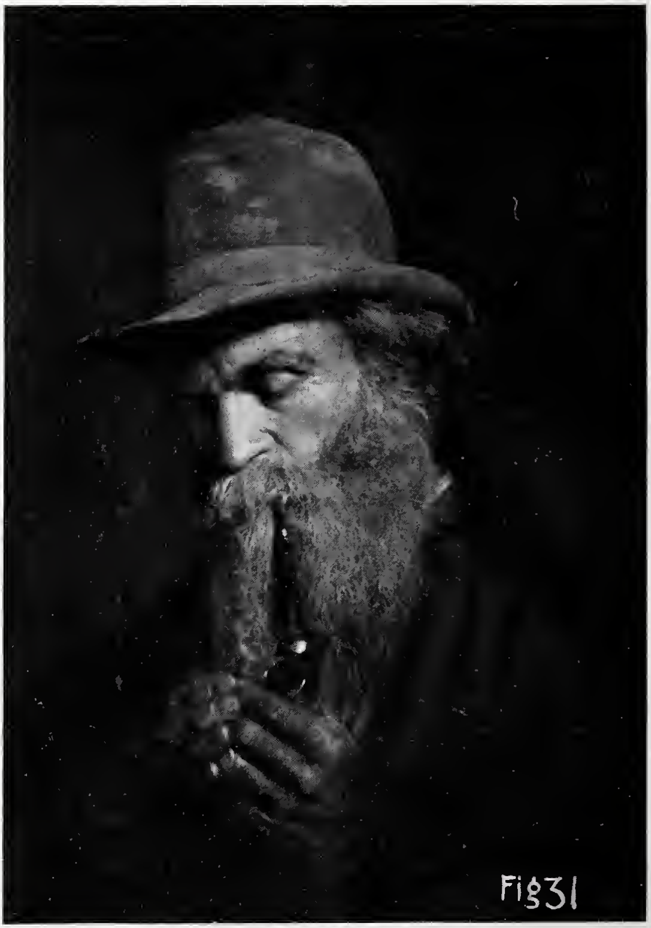


Fig 31

R. JAMES WALLACE.

Worth their weight in gold: "First Step in Photography," price 25 cents; "The Photo-Beacon Exposure Tables," price 25 cents. The Photo-Beacon Company, Chicago.

THE DARKROOM

Fig 32

REDUCING DENSE NEGATIVES.

When a negative is too dense (which is usually caused by over-developing or using too great a quantity of pyro or other density-giver in the developer) it must be reduced by dissolving away a portion of the silver which forms the image; this may be done by what is known as reducers. There are several good formulas for the reduction of this class of negative, but for general use and being easy to manipulate, Farmer's is the best to use. The negative should be well soaked in water so as to be sure of even reduction:

FARMER'S FERRICYANIDE SOLUTION.

Potassium ferricyanide	1 ounce
Water	9 ounces

This solution should be kept in the dark, as the light has a deteriorating effect upon it. A fresh solution of hyposulphite of soda, about half the strength of an ordinary fixing bath for plates, and to this add eight drops of the ferricyanide solution and well stir, then place the plate in and well rock. If this solution does not reduce much, a few drops more should be added, of course taking out the negative to do it, otherwise uneven reduction will result. Care must be taken that not too much ferricyanide is used, or the reducing action will get out of control and be carried too far. When about the right depth is reached the negative should be taken out and rapidly and thoroughly washed, as the action will continue as long as there is any trace of the reducer in the film. Belitzki's is another reducer, but contains more ingredients than Farmer's and is not quite so popular, but is equally effective. It is made up as follows:

Ferric potassium oxalate	1 ounce
Sodium sulphite	1 ounce
Oxalic acid	¼ ounce
Solution hyposulphite of soda	5 ounces
Water	20 ounces

The above ingredients must be dissolved in water in the order given. This solution must also be kept in the dark. When dissolved it is ready for use. The negative must soak in water first and is then placed in the above solution, which should be kept in motion by rocking so as to insure even action. When the desired result is obtained the negative may be removed and well washed. Two other formulas for reducing, which are used in the same way as the foregoing, are:

The cyanide bath, which is a very slow-acting reducer, and the iron bath. The cyanide solution is made up as follows:

Cyanide of potassium	20 grains
Iodide of potassium	10 grains
Bichloride of mercury	10 grains
Water	10 ounces

The advantage of this bath is the easiness of its control, as it acts very slowly. After reducing, the negative must be well washed for two hours.

And the iron bath:

Citric acid	60 grains
Perchloride of iron	30 grains
Water	1 pint

Well wash the negative after using above. There are two methods of locally reducing a negative—chemical and mechanical. The former is most usually resorted to and gives the best results if carefully carried out. The best formula to use is the ferricyanide solution given above. This should not be used so strong as for reducing the whole of a negative. The negative requiring reduction should be held in the left hand, with a sheet of paper underneath to throw up the light; now place a camel's-hair brush in the hypoferricyanide solution, and carefully go over the edge of the dense spot; then paint the middle, taking care to cover all over. This should be done over and over again till reduced enough. Do not fill the brush too full of the solution, or it will run and reduce other parts. To prevent sharp lines appearing, the brush must be dipped in water and painted round the edges occasionally so as to blend them together. When reduction has been carried far enough take the negative out and well wash. Another method of local reduction is the alcohol and chamois leather process. This is a mechanical process, and reduction takes place by evenly wearing away the film by friction. Take a piece of soft chamois leather and cover the rounded top of a penholder and dip in the methylated spirit, and carefully and gently rub the portion to be reduced till the result is satisfactory. It requires a lot of patience, and care must be taken that holes are not rubbed in the soft gelatin. There are many more methods of reducing the density of a negative, but the above will be found to be most practical, and if care is taken in their manipulation, negatives cannot fail to be improved by their use.—*The Amateur Photographer.*

A UNIVERSAL DEVELOPER.

In answer to request of E. H. R., in the November issue of The Photo-Beacon, for a developer with characteristics such as he names, I would suggest the following formula, published by the Seed Dry Plate Company. I think it will be found to fill every one of the six requisites, and also to possess many other good qualities, and no bad ones. It will keep well in any condition for a long time, but keeps best in small bottles filled to the neck and well corked. Personally, I prefer a one-solution developer. The formula:

No. 1.

Water	32 ounces
Sodium sulphite (crys.)	4 ounces
Eikonogen	240 grains
Hydroquinone	60 grains

No. 2.

Water	32 ounces
Carbonate potash	4 ounces

To develop, take:

No. 1	2 ounces
No. 2	1 ounce
Water	1 ounce

If this is not concentrated enough for E. H. R., No. 1 and No. 2 might be made up, using only 24 ounces of water for each, then mix for development as follows:

No. 1	2 ounces
No. 2	1 ounce
Water	3 ounces

This will work with ample speed and is excellent for almost every brand of plate that is to be found on the American market.

H. K. B.

THE PRINTING ROOM

HOW TO MAKE OPALINES.

The amateur photographer often wishes — or, at any rate, is expected — to make presents all round to friends with whom he may have spent a holiday. There is unfortunately a desire inborn in the human breast of every person who figures in a photograph to possess a copy of that photograph, even though you assure them that as they were about a quarter of a mile away from the camera, it is not altogether improbable that the likeness will be far from speaking. Now to deal out framed prints is a good deal of trouble and expense, and I want to suggest that to the general run of unphotographic people the opaline is a far more acceptable present. There is a popular superstition to the effect that if a picture is on glass it must be something superior to the ordinary print, while of course the opaline is so handy for ornamenting the wall, the mantelpiece or the bracket that it is much more welcome than a mounted print, which only lies about or gets lost. By following the few hints which are herewith subjoined the amateur will be able to turn out something superior to the usual run of opalines. First as to the glass to be used. Old negatives are often advised, but unless the opaline is framed in some way, the rough edges are so unsightly that it is hardly worth while using one's spoiled plates in this way, particularly when beveled opaline glasses, complete with back and strut, can be obtained so cheaply. We may fairly assume that the prints will be made on gelatino-chloride paper, and not on albumenized paper, so that the following remarks apply to the former only. The great difficulty that most amateurs experience is in getting the prints to stick to the glasses. It is a somewhat curious fact — but to anyone who has contemplated the natural cussedness of all created things, a highly significant one— that when one wishes to glaze prints by stripping from glass they adhere (in places) with the tenacity of an octopus, but when it is opalines that one sets out to make, the prints drop off the glass with a magnificent glazed surface.

An amateur friend of ours who holds advanced views on the possession of reasoning faculties by inanimate objects, says that when he commences making opalines he always makes a point of remarking in a high-pitched voice, "I hope these prints will strip all right." He finds this a perfect charm for making them stick. We may mention, however, one or two additional precautions. In the first place do not use any alum or other hardening bath during the toning and fixing processes, unless the weather should be so hot as to cause excessive softening of the gelatin. If possible do not allow the prints to dry before squeegeeing them to the glass plates.

Gelatin that has once dried does not readily soften when placed again in water. If these two conditions are complied with it is hardly necessary with most papers to use any mountant to secure the print to the glass, although its use will "make" assurance doubly sure. Another point or two later.

Now as to cleaning the glasses. For appearance sake, of course, they must be quite clean. At the same time any greasy matter prevents the prints sticking. First clean them with whiting and water, rubbing the mixture well over; allow to dry; wipe off with a clean cloth, and finally polish with French chalk, afterward dusting all traces of the latter away.

If the glasses have gilt edges, be careful not to rub off the gilt in this process. It ought not to come off, but it is a safe plan to varnish the gilded parts with "white hard" varnish, obtainable at any paint warehouse. The solution of gelatin for mounting is now made. Soak a quarter of an ounce of gelatin in five ounces of water till swollen; place the vessel holding it in a basin of hot water so as to make the mixture quite fluid; strain the hot solution through coarse muslin into a dish, and keep gently warm by standing this in a larger dish of warm water. Soak each print for a minute or so in this solution, and lay down on the opaline glass. Air bubbles must now be removed from between the print and the glass. The squeegee will do this, but before using it, draw the print nearly off the glass and then draw it back again over the edge of the glass. This will scrape away nearly all air bubbles, and if carefully done will not tear the film. Now adjust to the correct position, and squeegee well down with a flat squeegee. The print must now dry in a warm place and under pressure. A number of mounted prints may be piled up and a weight placed on them, or the glass plate may be inserted in an ordinary printing frame, padded up with blotting paper, and the back of the printing frame put in and sprung down. Warmth, when drying, and good pressure are points to be noticed in getting the prints to stick well.

Now for a few hints as to how to make an attractive-looking opaline.

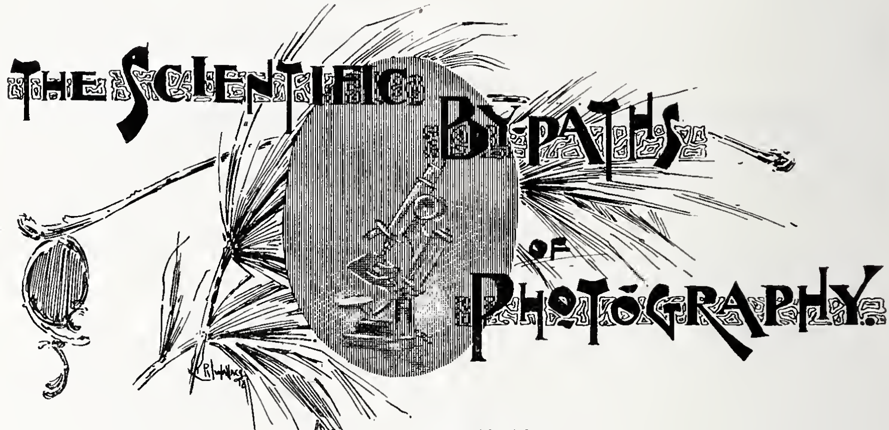
It is generally advisable to have the mounting glass slightly larger than the view. A margin of three-eighths of an inch and upward, according to the size of the glass, can be left all round. This margin can be filled in in various ways. The paper can be masked in printing and a white or dark border (the latter obtained by masking the printed landscape and exposing the previously protected border to light) obtained. Or the trimmed print may be adjusted centrally on the glass and the bare marginal glass filled in by mounting a piece of suitable colored paper to the back of the glass. Use unobtrusive colors, such as gray, cream, chocolate, or olive-green for this purpose. Instead of the backing paper, the edges of the print are given a coat of size, and when this is dry the margin is coated with A——'s enamel. The size is necessary to prevent the enamel penetrating into the print. Gold paint can replace the enamel, and looks well. More elaborate methods of decoration will suggest themselves to those possessing the necessary skill. A neat border is made by painting a "Greek key" pattern round the print in black, and backing this up with gold. In fact, a degree of ornamentation can be tolerated in productions of this class (where the subject is usually topographical) which would be quite out of place in photographs aiming at pictorial qualities.

SELF-TONING PAPER.

In response to a very large number of inquiries that reach them daily, the sales agents of this paper wish it to be understood that they are not in any way associated with any other business firm;

that they are an absolutely independent concern; that they are still doing business with the same goods at the old price, and have no intention of making any increase on either their glossy or matt paper.

They find that their matt paper, on account of its black-and-white effects, is giving great satisfaction to professional photographers, and when its labor-saving qualities are considered this is not to be wondered at. For just the very same reason it appeals to the amateur whose happy moments are too frequently occasional, and not continuous enough to do justice to the ordinary paper.



CONDUCTED BY
R. JAMES WALLACE.

A SIMPLE THERMOSTAT.

In the various processes connected with photography there is often required a steady temperature for a given length of time, to insure success in the final result, and to the amateur the purchase of a regular and reliable thermostat is an unwarranted outlay of money which he can ill afford.

Now, the inquiring amateur whose funds are limited and who has to count every small item of expense, and who would rather make for himself the apparatus which his more fortunate brother amateur can buy, and who, in spite of adverse circumstances pursues the more or less even tenor of his experiments, is always doubly entitled to our respect and admiration; for certainly anyone who has the necessary money can gratify his desires at no inconvenience to himself, while the other has sometimes to wait for a long period of time until he can afford the necessary outlay. To this latter class especially is this article addressed, with the assurance that if the directions given herewith be followed he will have an instrument which will accurately regulate the heat of a water bath (or any other piece of apparatus), without the variance of one-half a degree, for an indefinite period. A thermostat exactly similar to this described has been in almost constant use in my laboratory for the past eighteen months with unqualified success, in the regulation of the heat for the imbedding medium of delicate microscopic tissues, and for numerous other purposes, photographic and microscopic.

In Fig. 1 is shown a photograph of the completed instrument, and to make it you proceed as follows:

Take a piece of glass tubing 4 inches long by $\frac{3}{16}$ inch in diameter and hold the center in a Bunsen or ordinary gas flame until it begins to soften, then slowly bend it at right angles as shown in R (Fig. 2). P (Fig. 3) requires a little more care but presents no great difficulty. It is made thus: Take another piece of the $\frac{3}{16}$-inch tubing, about twelve or thirteen inches long, and stop up both the ends with a pellet of clay or wax, and then

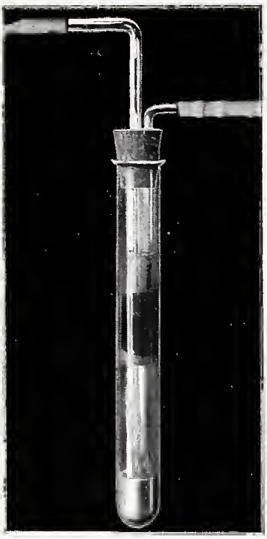


FIG. 1.

present a point about two or three inches from one end to the point of the gas flame. As the tube gets hot the air which is confined in the interior expands, and (as the tube softens at the point the flame is playing upon) will press out the softened point of glass in a small bulb (Fig. 4). Keep on heating that bulb until it bursts open from the inside pressure and you will have a tube thirteen inches long with a round hole three inches from one end; next put the tube into the broad portion of the flame and keep turning so that it may become equally softened all around and about ½ inch on either side of the hole.

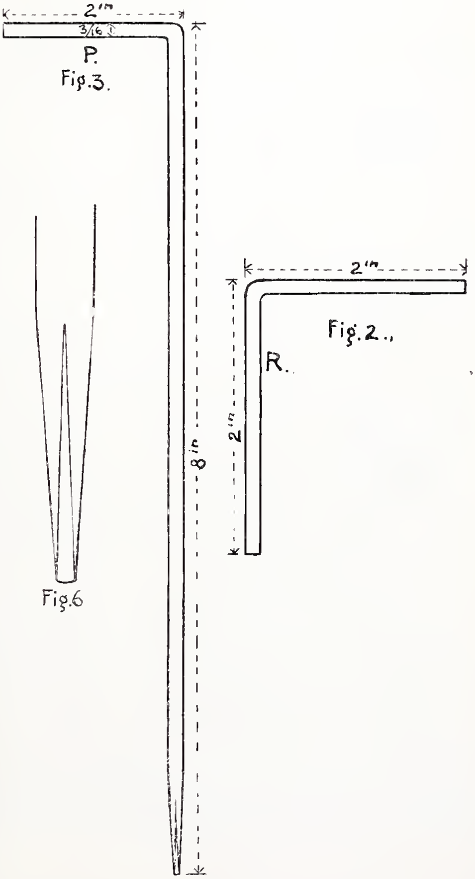
Now as the glass softens pull gently on either end of the tube and the hole will be elongated into a slit, and the tube will present an appearance similar to Fig. 5; make a scratch with a file where the dotted line is shown and snap the short end off, the end will then look like Fig. 6. Next bend the tube at right angles at a point two inches from the opposite end and it is finished and will resemble P (Fig. 3).

Fig. 7 is a sectional view of the body of the instrument.

Procure a test tube A, 6 by ⅝ inches, and also another piece of tubing 4 inches long by ⅜ inch diameter, and soften one end in the flame until you can fuse another piece of $\frac{3}{16}$ tubing with a fine $\frac{1}{16}$ bore to the end — ¾ inch long. (See B.)

C is a cork which fits A tightly about midway down the tube, and which is pierced with a hole to allow the smaller tube B to pass through it and rest with its end D almost touching the bottom of A. After this cork carrying the inner tube has been pressed in place, a little powdered sealing wax is dropped down, so that it rests on top of the cork, and the tube gently heated on the outside until the wax melts and forms an even layer E.

Next a cork F, pierced with two holes, G H, is fitted to the mouth of A so that R and P may fit tightly (P going through G and passing down the inside of B, and R going through H and projecting slightly through the under side of the cork). Next the cork F, together



with its tubes, is removed and a little mercury is poured down the inside of B until it reaches to about K in the outer tube A (it will stand at a higher level in tube B); then a little mercury is poured over the top of the wax at E until it stands at about M, the cork F with its tubes replaced, and the instrument is finished.

Fig 4

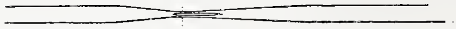


Fig 5

Now let it be supposed that we are required to maintain a bath at a constant temperature of, say 100° Fahr. We proceed as follows: A rubber tube is connected from the gas jet to tube P, and another piece of tubing is connected from R to the burner under the bath; then the whole instrument is itself placed in the bath until A is submerged up to about the center cork (a thermometer is also placed with its bulb in the bath). When the gas is turned on it flows through P (which has been pulled clear of the mercury) and issues from the slit at the end, thence passes up B to the chamber X, flows out by the tube R and passes to the burner under the bath.

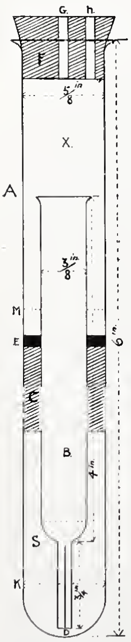


Fig. 7.

When the thermometer in the bath registers 100°, then slowly push tube P down until the slit is entirely submerged beneath the surface of the mercury in B, and of course the flame under the bath is extinguished. Now, in a few seconds, the water will lose some of its heat and the mercury in A will contract, lowering the level in B, thus uncovering a small portion of the slit through which the gas will pass and may be again lit under the bath. The process is now entirely automatic, for if the flame be too small to keep the water at 100° the mercury will contract still more, and more gas will pass; while if it begins to get too hot the mercury will expand and cut down the gas supply, so that we have a constantly fluctuating flame *never going out*, and keeping the temperature of the bath always the same.

The writer has had occasion to require a constant temperature for periods varying from *two* to *fifty hours* (and in the latter case where a siphon arrangement was used to supply the water lost by evaporation), and this arrangement gave thorough satisfaction, being left entirely alone for two nights, and in the morning showing the same water level in the bath, at the same unvarying temperature.

R. James Wallace.

EDITORIAL TABLE.

"Mosaics," the excellent annual issued by E. L. Wilson, 853 Broadway, New York, is once again on our desk, and as in former years is welcome. It is interesting and practical, as usual.

For two months we have wanted to tell our readers that while in Boston we examined at Benjamin French & Co's store one of the new Voigtländer shutters. It struck us as being especially good, and suggest that those interested send for descriptive circular.

We wish we could find space to do justice to the very beautiful cards just received from the A. M. Collins Manufacturing Company, as they are perfectly unique in design and style. But we advise every reader to ask his dealer to show him samples of the "Melton" and "Ormo," the latter being especially suited for cabinet portraits.

The Photographic Catalogue of the Bausch & Lomb Optical Company, Rochester, New York, marks an epoch in the production of elegant printing for gratuitous distribution. Aside from being filled with scientific information about lenses in general, expressed in the most simple manner, it is illustrated with three photogravures, each of which is in itself a work of art. The photogravure is printed by hand from a steel plate, the plate being inked by hand with an old-fashioned ink dauber, and the superfluous ink wiped away by the printer. The degree of inking and the care used in cleaning the high lights of the plate determine the excellence of the print. Thus it is that each photogravure is an individual work of art. All who have not yet received this catalogue should send at once before the edition is exhausted.

VIVE INTERNATIONAL STEREOSCOPIC SOCIETY

Associate Editor,
E. C. PATTERSON.

THE STEREOSCOPE.

The most beautiful application of photography is probably the making of stereoscopic pictures, and here, at least, it stands alone and unrivaled, for the pencil and brush of the artist are alike powerless. Yet for some reason stereoscopic photography has never become popular, at any rate not to the extent which it deserves. For the amateur worker it offers unrivaled advantages, the extra trouble which it invites is so little as not to be worth considering, and in the family a stereoscope and a good collection of slides is an endless source of amusement. Attempts have been made by a few earnest and enthusiastic workers to stir up some interest in stereoscopic work, but they have not been attended with any large measure of success, either among photographers or the public.

The failure to attract the public has been very largely due to the poor quality of the views offered for sale, and the very imperfect, cheap stereoscopes which are usually sold. The craze for cheapness has invaded this like all other fields, and dealers, mostly quite ignorant of the principles of the stereoscope, try to sell the cheapest article, quite ignoring the fact that, to sell an unsatisfactory article, however cheap, not only disappoints the purchaser, but may drive him away to some other dealer, or disgust him altogether, and thus in either case lead to the loss of a customer.

The stereoscopic views sold are mostly extremely poor. Not only are the prints poor in quality, often faded and spotty, but the subjects are worse, often displaying a deplorable lack of taste, to say the least, and thus those who are not able to prepare their own views become utterly disgusted. No doubt, if a good price be given, good views can be obtained, but it is almost always the cheap and nasty variety that are paraded by the dealers in their windows.

The stereoscopes, too, are often of the poorest quality and very badly constructed. It is by no means an uncommon thing to examine a dozen of the cheap makes before finding one that will combine the pictures without a degree of eye-strain that would soon give one a headache, and which would disgust the novice with the whole thing. And yet, if one remarks to the dealer on the subject, he will be told that it is all right, it only needs a little practice, and so on, and probably will be put down as being an absurd fidget. Yet it is certain if any considerable adjustment of the eyes is required, there is something wrong either with the instrument or the prints.

The prints, too, are often very badly mounted, occasionally they are not on the same level, and very frequently they are too far apart, or are too broad. It must be remembered that the same mounting will not suit all stereoscopes equally well. With the lenticular form, the larger the lenses the farther apart may the pictures be put and the larger they may be, while in the stereoscope with two circular lenses — the type often used in the stereoscopes fitted to graphoscopes — the pictures must be small and not too far from center to center. Great dissatisfaction is often given by these differences, views which are found to work well with one stereoscope not being found to do so with another. This is largely due to defective mounting, for, if the views are not more than about 2⅝ inches square, and are mounted close together, they will suit almost any instrument, but when they are larger, or are further apart, they cease to be so generally available. It is no uncommon thing for commercial stereoscopic views to be 3¼ inches wide, in which case the stereoscopic effect can only be obtained with some stereoscopes. If stereoscopy is to become popular, a standard stereoscope must be adopted, and the views must be mounted to suit this, and great care must be taken that the views are not too large. No doubt the large views look better on the mount, as they fill it more completely, and leave less blank at each end, but this is a small advantage, especially if gained by a sacrifice of efficiency. It is a good example, however, of what is very common in commercial articles, namely, the sacrificing of efficiency to a false idea of what looks well. For those who understand the stereoscope, views should be sold unmounted, so that the worker can trim them to suit his own instrument; this is often essential, and soaking the view off its mount is always troublesome. The dealers, too, should acquire at least some rudimentary knowledge of the principles on which the stereoscope is based, that they may be able to see the reason for any defects that may appear, and, above all, if they desire to encourage an interest in stereoscopic work, they must remember that stereoscope and views must be suited to one another if the best results are to be obtained.

Anyone commencing stereoscopic work should obtain a good stereoscope, and there is really no excuse for purchasing an inferior article, for good ones are very cheap, and then he should mount his views specially to suit his own instrument; and should he at any time come across views that do not suit, he will always be able to adjust them by retrimming and mounting, that is, provided that they are stereoscopic views, and be not merely two identical views mounted side by side.—*Photography.*

BLUE PRINT PAPER.

L. W. Larson, Moline, Illinois, writes: "Is there a way to prepare blue print paper so that there will be blue lines on white paper, supposing a tracing to be used as a negative?"

Answer.—Abney gives the following method of obtaining this result:

Common salt	3	ounces
Ferric chloride	8	ounces
Tartaric acid	3¼	ounces
Water	100	ounces

First dissolve 25 ounces of powdered gum arabic in half the water and dissolve the ingredients in the other half; then mix. This mixture is applied with a brush to strongly sized and well-rolled paper in a subdued light. The coating should be as even as possible. The paper should be dried rapidly to prevent the solution sinking into the pores of the paper. When dry, the paper is ready for exposure. In sunlight one or two minutes is generally sufficient to impress an image; while in a dull light as much as an hour is necessary. To develop the print, it is floated immediately after leaving the printing frame upon a saturated solution of potassium ferrocyanide. None of the developing solution should be allowed to reach the back. The development is usually complete in less than a minute. The paper may be lifted off the solution when the face is wetted, the development proceeding with that which adheres to the print. A blue coloration to the background shows insufficient exposure, and pale blue overexposure.

When the development is complete, the print is floated on clean water, and after two or three minutes is placed in acidified water, made as follows:

Sulphuric acid	3	ounces
Hydrochloric acid	8	ounces
Water	100	ounces

In about ten minutes the acid will have removed all iron salts not turned into the blue compound. It is next thoroughly washed and dried. Blue spots may be removed by a four per cent solution of caustic potash.

The back of the tracing must be placed in contact with the sensitive surface.

FIRST PRIZE.

Negative by Fred L. Smith, A. M., Philadelphia, Pa.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. MARCH, 1899. NO. 3.

OUR SIXTH COMPETITION.

To the making of a really successful landscape picture three things are essential — land, trees and water. The first is the most stable feature we see on this sphere, the last the most unstable, while trees occupy a middle position. Photographers intuitively recognize the necessities for the presence of all these in a landscape, and we therefore anticipated a very keen competition. We were not disappointed, for no less than 270 pictures were entered, and these seemed to come from every State in the Union. The judges had quite a lively time in making the selection, but their verdict was decidedly unanimous. We say "decidedly" advisedly, as two of the gentlemen were a little unpunctual in keeping the engagement, and each made his selection without knowing what the others thought. One and all selected the same three pictures, and all arranged them in exactly the same order, so that our readers will see from this little incident how much confidence can be placed on their judgment. The following are the prize-winners:

First — F. L. Smith, A.M., Philadelphia, Pennsylvania.

Second — George K. Merrill, Rockland, Maine.

Third — E. F. Reese, Cherokee, Iowa.

We wish to draw attention to a couple of points in connection with these competitions. Many competitors wrote on the back of the mounts such comments as "For Photo-Beacon Competition No. 6." The result was that Uncle Sam, through his post office officials, levied pretty freely on our cash box for extra postage, to the tune of about $2. In future, will our readers kindly refrain from such comments, and content themselves with writing only their name and address.

Again, many requested us to return their prints. With such a large amount of material to handle, this was simply impossible. But our readers will grumble less when we tell them that the junior members of our family are serving themselves heir to the best of them, and are marching them off to school, where they are used to decorate the schoolrooms.

We naturally feel a little anxious about the next competition, for while our friends at the Klondike appear to be indulging in a big "blow-out," they have omitted to send along with it a few flakes. We sincerely hope, for our readers' sake, that the end of the series of cold waves that are pouring down on this poor country as we write will finish up with a snowfall sufficiently big to make snow pictures possible.

FUTURE COMPETITIONS.

Competition No. 8 — "At Home" portraiture; closes March 31.

Competition No. 9 — Lantern slides; closes April 30.

Competition No. 10 — Branch of a tree without leaves; closes May 31.

Competition No. 11 — Interior pictures; closes June 30.

Competition No. 12 — Branch of a tree with leaves; closes July 31.

Competition No. 13 — Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15 — Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

Now, will our readers tuck in during 1899 and keep us busy? We have tried to introduce as much variety into our list as possible, so that everybody can find a place to come in somewhere and we expect shoals of pictures to arrive every month.

To enter for any competition all that is necessary is to send a print, properly mounted; and on the mount, either back or front, the sender must write his name and address, and on the package write "competition." The judging is done by three gentlemen, two of whom are artists and one an amateur photographer. One of the artists is himself a first-rate photographer. The editor never sees a print until the awards are made, so he never loses sleep when anyone kicks about the decisions.

The prizes are:

First — A complete set of our own publications.

Second — H. P. Robinson's "Pictorial Effect in Photography."

Third — "Amateur Portraiture at Home."

In lieu of the above prizes the winners may select an amount of equal value from our catalogue.

Mr. F. D. Todd:

Dear Sir,— I have just read your excellent books on photography for beginners, No. 1 and No. 2. They are very clear and understandable and to the point. Very respectfully,

J. O. K. Kramer.

New York, N. Y.

LITERARY COMPETITIONS.

Five years ago when we first sat down in the editorial chair we tried our hardest to secure contributions from American writers for The Photo-Beacon, but with absolutely no success. We found many people willing to write vague generalities, but we wanted articles wherein our readers would be told in plain and simple language how to do ordinary photographic processes. At last we gave up the effort entirely, feeling confident, however, that the time was not far distant when our wishes would be gratified. In 1898 we caught a glimpse of the dawn, and now that we see daylight coming we propose to give it every encouragement. Therefore, during 1899 we propose to have a series of literary competitions to which we ask every reader to contribute. We know that many men will hesitate about putting their ideas upon paper, being afraid that they will write something that will not be up to literary standard. To such we would say: "The editor will take care of the English language — that's his business." The standard by which the articles will be judged is "practical value."

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 1.—How to make a darkroom in the basement, and the best way to arrange it. Closes March 15.

No. 2.—How to make a toning tray cheaply. Closes April 15.

No. 3.—How to prepare a stock developing solution. No detail is too trivial for notice. Closes May 15.

No. 4.—How to get glossy prints by squeegeeing on glass or ferrotype, and how to mount the prints to retain the gloss. Closes June 15.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

HINTS FOR THE TYRO.

In the following lines I have endeavored to give a few hints to the beginner, such as I have found from experience to be useful, and also to give a little advice on points over which many a tyro has stumbled.

In many operations connected with the camera — enlarging, copying or reducing, for instance — it is absolutely necessary to know the focal length of the lens which is being used to enable the operator to obtain the desired result. This is often engraved on the lens mount, but when omitted it becomes necessary for the owner, by one of the many methods, to find out for himself.

A good way in which to find the focus of a lens is to make a slit parallel with and about half an inch from the edge of a piece of white cardboard, which should be three or four inches square. This slit should be made large enough to enable the end of a foot rule to pass through it, at the same time keeping the surface of the card at right angles with the flat surface of the rule. If the lens, or more correctly the optical center of the lens, is now made to coincide with the end of the rule, and the whole pointed toward the sun, the focus of the lens may be easily found by noting the distance between the end of the rule and the cardboard when the image of the sun, which will appear on the card, is sharply defined. The card should grip the rule in such a manner that it, the card, can be moved to or from the lens to enable the correct focus to be obtained.

A first-class temporary focusing screen can be made by flooding a piece of glass, or a spoiled plate, with negative varnish (in default of this a good ordinary shellac varnish can be used, provided it is fairly clear), and when perfectly dry passing a piece of No. 0 sandpaper lightly over its surface. This will slightly roughen the surface of the varnish, and a fairly good focusing screen will result. Should the screen be required immediately, the glass can be placed close to a fire when coated, and the varnish will soon be dry enough to enable the sandpaper to be used on it without dragging up the surface.

Negative by George Knox Merrill, Rockland, Me.

SECOND PRIZE.

A temporary screen, however, is seldom so efficient as a properly prepared one, and it is always advisable, when on a holiday or tour extending over several days, to carry a second focusing screen, in case of need. Of course, it might never be wanted, but a use can always be found for a screen of this sort, either as a diffuser for the darkroom light, for squeegeeing aristo prints on to when a matt surface is desired, and many other purposes.

If at home or headquarters, when a focusing screen reaches an untimely end, a perfect substitute can be made by placing a little fine emery powder, the same as used for cleaning knives, together with a few drops of water, between a couple of old negatives from which the films have been removed. By placing these on a flat surface, and rubbing together with a circular motion, a finely ground screen will soon be produced. Should a rougher surface be required, it can be obtained by using a more gritty substance, such as fine or silver sand, instead of emery.

To those who find a difficulty in mounting glazed prints without losing the greater part of the high gloss imparted to them with the aid of plate glass, the following will, no doubt, be found useful. Use a good strong mountant — a quick-drying one for preference — and instead of brushing this all over the back of the print as usual, use it only round the edges. A band of mountant about a quarter of an inch, or even an eighth of an inch, wide is quite sufficient, and if care be taken not to touch the surface of the print more than is absolutely necessary, the gloss, which is no doubt a benefit to some prints, will not be marred.

There have been so many pieces of advice given as regards the removal of glass stoppers that there hardly seems room for more, but my excuse for giving this method must be that I have never seen it in print, and although on the first occasion I tried it merely as a last resource, the result was everything that could be desired.

It was a four-ounce bottle of sulphate of iron solution which had been in my chemical cupboard for a few months, the stopper of which altogether objected to being removed. It was shifted at last, however, by placing the square flat head of the stopper between a door and the upright on to which it was hinged, very much as a boy would proceed on finding it necessary to remove a peg from a favorite spin-top. The bottle was then gently but firmly twisted to the right and left alternatively, and the stopper soon loosened sufficiently to enable it to be removed by aid of the fingers.

The chief point seems to be to keep the bottle as near as possible at right angles with the edge of the door, which will necessitate the stopper being twisted straight, and not on the skew, which would in all probability result in a broken stopper or bottle.

A good substance with which to block out objectionable skies in a negative is that known as Brunswick black ; it can be obtained at any ordinary oil or color dealer's, and a little is sufficient to do nearly half a gross of negatives. It should be mixed with a little benzine or turpentine, which will not only thin it down sufficiently to enable it to be used with the small camel's-hair brushes necessary for the lower parts of the sky in the majority of negatives, but will have the effect of causing it to dry much quicker. Should there be any doubt as to its consistency, it should be tried on a spoiled negative first.

The best method of cleaning developing or toning dishes is a matter which troubles a good many beginners. In the first place, it depends a great deal on the substance from which they are made. The dishes most usually found in practice are xylonite or celluloid, porcelain, and for enlargements enameled metal. For xylonite or celluloid dishes the best method is to give them a good rubbing with soap and fine silver sand, about equal parts, applied with a piece of flannel. Those made of earthenware should not be cleaned with the above, or anything of a gritty nature, as it will scratch the glaze, and so tend to make the dish porous. A weak solution of hydrochloric acid will be found to remove all foreign substances, and to

Negative by E. F. Reese, Cherokee, Iowa.

THIRD PRIZE.

leave the dish thoroughly clean. For enameled metal dishes use the same as for xylonite, which will remove the dirt in a twinkling, and leave the dishes like new. As an alternative to ordinary soap and silver sand, such a soap as Sapolio will be found a capital cleanser for either xylonite or enameled dishes. On no account use boiling water for cleaning the celluloid or xylonite variety, as it will in all probability necessitate the purchase of new ones.

Marks on a negative, caused by laying it flat on a table, for instance, and allowing the water to settle in patches on its surface during the process of drying, may be removed by giving the negatives a thorough good soak in water, and then allowing them to dry in a warm current of air. The best plan, however, is to see that all superfluous water is removed from the surface of the film after washing and before placing it into the drying rack, and no further trouble will then be experienced in this direction.

For those who object to backing their plates on account of the messiness, I would advise the following: Place each plate in a printing frame, glass outward, with a piece of perfectly clean and pure blotting paper between the movable back of the frame and the film of the plate. The backing, when the frame is closed, can then be brushed on to the glass, and the whole put on one side to dry.

Lastly, should the reader be possessed of a xylonite dish which has been cracked at one or more of its corners, or otherwise rendered useless, it may be cut after having been softened in boiling water, and then shaped into print forceps or plate-lifters, thereby producing a useful article from a useless one, or something from nothing.—*The Photographic News.* W. T. PERRY.

A NEW FIRM.

Mr. John A. Tennant, for some years past associate editor of *Wilson's Photographic Magazine,* New York, has resigned that post and formed a partnership with Mr. W. E. Ward, one of the founders of *The Photogram,* of London.

Messrs. Tennant & Ward are located at 289 Fourth avenue, New York, and will in a few weeks begin the publication of a monthly photographic magazine, *The Photo-Miniature*, which is, we learn, planned along new lines, and will not clash with the existing photographic journals. The new firm will make a specialty of dealing at wholesale and retail in American and foreign photographic books, and will also have the American agency for a London firm of general publishers.

The book list issued by Messrs. Tennant & Ward may be had on application at the above address.

TO THE PHOTOGRAPHERS OF AMERICA.

I would respectfully call attention to our next annual convention, to be held at Celeron from July 17 to 22, inclusive. The executive board, having held session and passed upon the many difficult problems arising, to the best of their judgment with equal fairness to all, call upon you for your indorsement, your exhibits, and, above all, your attendance to assist in making this our nineteenth annual convention a grand one.

Do not sit in your studio, feeling satisfied with your efforts, but come out and join us and spend a week at one of the most beautiful spots in America, studying the exhibits gathered from all sections of the country and exchanging ideas with the many new acquaintances you will make. You will find them the most progressive, energetic and most social set of gentlemen you have ever met. Let your appointments await your return, and, when with us, lend us your aid in preparing for an ideal convention for 1900.

Our association should be the pride and have the support of every photographer in the land. Let us stir ourselves, take more interest in our association and contribute our mite to its sustenance, attend our meetings occasionally and not depend wholly on our journals to place before us the benefits and advancements our conventions alone make possible. Join with us this year in the hustle for artistic progress and you will return home enthused, feeling that you have enjoyed a week of profit and pleasure that you could ill afford to have missed.

Our membership fees are only $3, annual dues $2, and the treasurer is now ready to receive same.

Yours respectfully,
GEORGE W. VARNEY,
Treasurer P. A. of A.
3937 Drexel boulevard, Chicago.

NOTICE.

DES MOINES, IOWA, Jan. 27, 1899.

The Photo-Beacon Company:

We beg to notify you that The Robt. Dempster Company have this day sold their business in Des Moines, Iowa, to the Des Moines Photo-Materials Company, which assumes all indebtedness of The Robt. Dempster Company incurred by the Des Moines house.

We take pleasure in recommending the Des Moines Photo-Materials Company to you for the same courtesies that have been extended to us in the past.

The Robt. Dempster Company will continue the business at Omaha, as heretofore. Very respectfully,

(Signed) THE ROBT. DEMPSTER CO.,
By ROBT. DEMPSTER, President.

Referring to above notice, we desire to say that we have purchased the Des Moines interest of The Robt. Dempster Company, and solicit from you the same courtesies that have been extended to them. Very respectfully yours,

DES MOINES PHOTO-MATERIALS CO.

Signed:

JOHN VERRAN, President, late Secretary The Robt. Dempster Company.

CHAS SELLNER, Vice-President and Treasurer, late Vice-President The Robt. Dempster Company.

GEO. STRASSLER, Secretary, late Bookkeeper The Robt. Dempster Company.

References:

Des Moines Savings Bank, Des Moines, Iowa.

Robt. Dempster, President The Robt. Dempster Company, Omaha, Neb.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

PHOTOGRAPHERS' ASSOCIATION OF OHIO.

REPORT OF THE EXECUTIVE MEETING.

Meeting was called at Toledo, January 9, 1899. All the members being present, the secretary's and treasurer's reports for 1898 were read, which showed that the convention last year was a financial success, leaving a very fair balance in the treasury. The books were audited and found correct. The bond of the treasurer was presented and approved.

August 30, 31 and September 1 were decided on as the dates for the ninth annual convention to be held at Hotel Victory, Put-in-Bay Island, Lake Erie, Ohio. The following committees were appointed :

Prizes, Buttons, Souvenir Books and Printing — G. M. Edmondson, C. S. Bateham.

Entertainment — R. P. Bellsmith, George B. Sperry, I. Benjamin.

Exhibits — L. E. Martindale, R. D. Beem.

Instruction — G. M. Edmondson.

Salon — W. K. Van De Grift.

Mr. Van De Grift made a liberal proposition to frame the Salon pictures suitably and inexpensively and was authorized to do so.

This year the Salon will be complete and better than ever.

It was the mind of the meeting that this association should be self-supporting and a resolution was passed that the officers obligate themselves to meet any deficiency that might arise without calling on the dealers to donate.

The list of awards was carefully gone over, and as finally drawn up was the result of the most serious consideration as to what would best suit the majority of photographers in the State.

Mr. McCreary, representing the Hotel Victory Company, submitted a contract for the coming convention, which was accepted, signed, and a copy of same left with the secretary. By the terms of this contract the association is given the free use of all the room desired for convention purposes, room with water connections for demonstrations, ballroom and orchestra.

The members are offered the superb accommodations of this famous hotel

Negative by S. W. Ormsby, Wolf Point, Mont.

TORTURE AT THE STAKE.

for $2 per day; children under ten, half price.

Here is a splendid place to bring your family and take a vacation on this most beautiful island of the lakes. Everything will be in readiness the first day, so that the full three days can be spent with pleasure and profit.

C. S. Bateham, *Secretary.*

A FEW CHEMISTRY TIPS FOR THE PHOTOGRAPHER.

It is amazing to see what a large number of amateurs manage to struggle on with absolutely no knowledge of chemistry or the theory of photography, although I hope a good many have mastered the principles of the latter by means of the excellent articles which appeared a short time ago in the *Amateur Photographer* from the pen of W. Ethelbert Henry, C.E. I am sure amateurs would find things work more smoothly, and their results would be much more certain, if they would only learn a little of the mysteries of chemistry. There are several little stumbling blocks which chemistry puts in the path of the unwary photographer, and it is the object of this article to point out some of these.

First, let us look at the theory of "crystallization." Suppose we have a solution of a chemical, and wish to get that salt back again into its solid state, how should we go to work? If we are in a hurry, we should gently heat the solution over a spirit lamp or gas burner, and so drive off the water and leave the salt behind; but if time is of no consequence, then stand the dish of solution in a draft of warm, dry air for a day or two, and you will find the water will evaporate off and leave the salt behind, but in larger crystals than in the first case. Now take some of these crystals and thoroughly dry them on blotting paper, and then transfer them to an evaporating dish, or, failing that, an old saucer, and gently heat them. They will crackle and melt, water will be driven off, and the salt will remain as a powder. Now where did this water come from? It was actually combined in the crystal, and was, in this particular instance, necessary to enable the salt to assume a crystalline form. Without that water, as we have seen, the salt remains as a powder.

Now let us see how this little secret of Mother Nature affects the unwary photographer. He is told to make up a solution of copper sulphate. The formula says: Copper sulphate 1 ounce, water to make 2 ounces. He utterly ignores the words "to make," and at once gets an ounce of copper sulphate, measures out two ounces of water, and dissolves the sulphate in it. Now let him measure the volume of his solution, and he will be astonished to find that it is several drams over the two ounces, but where the extra water came from he is quite at a loss to say. He is fairly in a muddle now, for his solution is weaker than it ought to be, and consequently his results will be very uncertain. Now all this trouble is caused by the "water of crystallization." He was not aware that when he dropped the ounce of sulphate into the water he was also adding more water, Those two words "to make" are put in to allow for that. The correct way to have made up the solution would have been to put 1 ounce of sulphate into a 2-ounce measure, add about an ounce of water, and then, after the salt has all dissolved, make the volume of the solution up to two ounces.

Another little bit of chemistry which every photographer should know is the great affinity which sulphuric acid has for water. Many an accident has occurred in chemical laboratories through students forgetting this. The unwary photographer sees a formula in which, among other things, are sulphuric acid and water. Quite naturally he starts by mixing the liquids first, and, measuring out the water, he adds the requisite amount of acid. The next thing that happens is that hardly has the acid touched the water before a snap is heard, and there is a clean crack right round the vessel, just at the surface of the water. Why is this? It is simply because when sulphuric acid is mixed with water some kind of action is started which produces great heat, the result being that the glass is cracked. When mixing the acid with water, it should be added drop by drop, and carefully stirred.

There are certain chemicals — for instance, ferrous sulphate, pyrogallic acid, and sulphite of soda — which have a great tendency, when exposed to the air, to change into something else, and therefore, when both in the solid form or in solution, they should be kept from the air as much as possible, either by sealing the bottle down, or, if in solution, the surface of the liquid can be covered with a layer of castor or some other oil.

Suppose a chemist has a bottle of solution in his right hand, and in the other a bottle or measuring glass, which he wants to hold up against the light while filling. How does he remove the stopper and hold it while pouring out the solution? The beginner would naturally take out the stopper and lay it on the bench, but the chemist knows that it is there liable to pick up all manner of contaminating things, and he prefers to keep it in his hand. He stands the bottle on the bench, and, turning the back of his hand toward the stopper, grips it between the first and second fingers. Now, after taking out the stopper, he can turn his hand the right way round and lift the bottle in the ordinary way, while the stopper will be sticking out from the back of his hand.

It is often very aggravating to have to wait, say, half an hour, while a solution is filtering, for often in the old style of folding the papers it took quite half an hour to filter a fair quantity. The object which should be sought is to get as large a surface of paper exposed as possible, and therefore I believe you will find it better to follow out this method of folding your paper: Take a filter paper, or a clean circular piece of white blotting paper, and fold it in halves. Then fold again and again, always letting the fold go through the center of the original circle, and continue this till you have a segment-shaped piece about a quarter of an inch across. Now open this out, and, putting it into the funnel, manipulate it so that there are a number of "pleats" (in dressmaking parlance) all round. This, you will find, will filter a solution a good deal faster than a paper folded into the old-fashion quarters.

Neg. by Miss Belle Johnson, Monroe City, Mo.

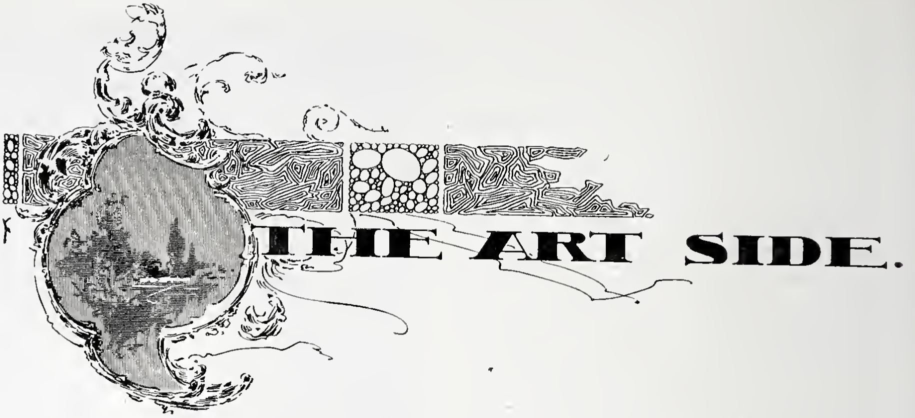
FLOWERS.

Finally, every chemist knows what a hash a slovenly worker will make of anything he undertakes in that science, and this also applies to photography. Therefore, let me urge upon all amateurs to be as neat as possible, and not to leave apparatus lying about dirty any longer than is absolutely necessary. A. A. M.

ENGLISH BOOKS ON PHOTOGRAPHY.

By the time this issue is in the hands of our readers we will have received from London our second consignment of English books on photography, and will again be in position to fill orders at once. Included in this lot are 100 copies of "Photograms of '98," for which we have had a big demand. Any reader wishing a copy of this most interesting and suggestive annual should send us 50 cents at once.

"Amateur Portraiture at Home." Just the book for beginners. Price, 25 cents.



THE ART SIDE.

LANDSCAPE PHOTOGRAPHY FROM AN ARTIST'S POINT OF VIEW.

I do not propose tonight to go into any technical matters connected with photography, but merely to throw out some suggestions which occur to a landscape painter, and which I hope may be of some use to you as photographers. Photography is a young art; and having this new art in your hands, it is your business to find out in the first place what its true mission is, what it is capable of doing, and what beauties and pleasures it has to reveal to us. I do not think for one moment that it will ever be a rival to fine art. There is room for all expressions of nature, and photography has, like painting, its definite place; but it is impossible for me to regard your art — even if it succeeded in giving us an exact replica of nature, in all its beautiful colors and combinations of form and detail — as a competitive art to mine.

In the expression of human emotions there are three main things — music, painting and literature; and there is no doubt that the reason of the existence of painting is that it gives us some pleasure that cannot be conveyed either by literature or by music: that is the *raison d'être* for the existence of painting. Now, I want to ask tonight, What is the *raison d'être* for the existence of photography? You must in your study of this question come to some conclusion in your own mind, and when you have found that conclusion, and are perfectly satisfied that it is correct, I should recommend you to strike hard in that direction, and to endeavor to fulfill all its possibilities. I shall speak of those possibilities later on. Now, let me for a moment speak of the limitations of photography. A painter may conceive of an arrangement of color, or conceive of a beautiful design, and then go to nature to select the materials which best suit its fulfillment. That is the reverse of your art. You have to accept what nature puts before you, and the most you can do is to place your camera in the position in which the objects in the field of view will best conform to certain received traditions with regard to composition. The painter may select a subject which in no respect conforms to the requirements of photography, and yet by luxuriant and opulent coloring he may give us a sensation of joy, which shall be so overmastering in its effect upon our appreciation that we may revel in it, as it were, as in fine music or fine poetry. There are two aspects of nature, and the painter has them both; first, there is a composition that depends upon color for its beauty, and then there is the composition that depends upon its form. You have simply that of form, and therefore it is necessary in landscape photography to see that your forms are consistent with what you want to express by your picture. The first condition of your art is the area or field of your plate; mine, that of my canvas. Within that area you have to put down something that is most interesting in quantities of light and dark, of beautiful rhythm of line and of fine contour, and with an expression of absolute truth in aërial and linear perspective. How does your camera suit you there? You find the camera tells you a great untruth — the meanest things are made magnificent, and the grandest things are made insignificant. That is, perhaps, a bold thing to say to you; but think for a moment. You are taking a picture from the plains of Lombardy, and there in the distance is the outline of those grand Alps in northern Italy. We know how grand they are; and when we have seen them on a fine spring morning, with their wonderful gradations of light and shade and color, we have felt an emotion which it is almost impossible to express either by literature or music or painting, but which has surely been expressed better by literature or by painting than by

Negative by Dr. W. R. Lewis, Oak Park, Ill.

NOW COMES STILL EVENING ON.

photography; and for this reason: At our feet are the common weeds of the country — perhaps mean, contemptible refuse — and from the point of view which we select it is impossible to avoid in a photograph the enlargement of those mean details which altogether subvert the beauty of those distant mountains, which, by the unfortunate limitations of the lens, have been reduced in scale, so that only the middle-distance of your picture is properly rendered. This is a most serious drawback to your art. With us, we can add 5,000 feet, or 20,000 feet, if you like, and we are justified in doing so, because if we add a few thousand feet to the height of the mountains we give an impression of the real height, and by telling an apparent untruth we express the real truth. Photography, unfortunately, tells a thousand little lies with the idea that it is going to tell one big truth — and it fails. With all the limitations of the camera, however, it is yet possible to do good work which will appeal to the artist, and I have been moved very strongly by seeing a series of slides taken by an artistic man — I mean a man who understands the real relations of light and shade and of mass to mass — the real feeling of rhythm of line.

The great charm of color requires for its expression a corresponding orchestra, as I might say — that is, the forms of the material, nature, which best express it, because there is a subtle suggestion that certain forms best express certain colors. The greatest ambition for you photographers, after good composition, might be to suggest color, if you can. There is no art, outside that of painting, that can give the corresponding pleasure that painting does of a series of beautiful tones in conjunction; and when those tones of color are best displayed by beautiful form, that is a very high attainment in landscape painting. The landscape painter does not go to nature, as you do with your camera, to accept what nature gives, including all the vulgar forms and all the deformities of nature. There are as many deformities in trees and plants as in humanity; you would never photograph a deformed person as a typical man, and you should never select deformed things in nature to represent what you consider to be nature's most beautiful aspects. Now, that suggests that you must know a great deal of nature, and the photographer ought to know more than he does. He takes out his camera to the fields, and he is struck with a certain combination of beautiful forms, and without further consideration he snaps it off. When a landscape painter paints that same scene he probably takes a week to consider it, for he knows that if he is going to spend months in painting a picture it is very important that he should get the scene under the best conditions, as regards lighting, and so on. A very serious danger lurks in this "press the button" idea. I think if you were to look at nature at the spot that impresses you, and to think out why it impresses you, and whether by some arrangement of your camera, or under altered conditions of light, you might produce a better result, you would find it worth while to do so, and you would get credit for it — in fact, you would find it pay. But if you have not the ability to do all this, it is quite another matter; and here is where the artist comes in behind the camera. Of course, there are qualities in art that the camera will never give you. The camera is very untrue; it tells, as I said before, many little lies under the disguise of one big truth. Painting is a vital expression of a man's love of nature, or of that part of nature which he chooses to paint: that is one expression of art; there are many, but that is one. Then that vitality — part of the man's being — is inwrought, as it were, on his work; it gives it that sense of vitality, of life, of being, which is always — or nearly always — absent from a photograph, and always absent in the technically correct photograph. You may have noticed, in the drawings and studies of Raffaelle, that he has given the choice of many lines: he has paid you the compliment of a choice, and you have felt that the aggregate impression upon your mind was one of movement or vitality. Photography gives the

Negative by George H. Power, Chicago.

THE LAST GLOW.

choice of one line only, and that one is dead. It is a dead line, there is no doubt about that; whether you put it out of focus or not, the line is dead. If you put your photograph out of focus and say that the blurred outline of a tree suggests vitality, I tell you it is not so. Blur is the aggregate of reflection from a certain angle of the leaf, but there are some leaves that give a hard, precise and definite point, and it is between that definite point and the indefinite point of reflection that gives the sense of vitality. Outside my window is a plane tree, and on the other side of the street there are some more plane trees; there is a breeze blowing, but I can follow the leaves near my house and can draw them, because they are near me and move slowly; I cannot draw the leaves on the other side of the street, because they are too far away and appear to move faster, and therefore my line is an indefinite line. Between the definite point and the blurred point is the suggestion of vitality; but if you put your photograph out of focus everything is blurred; the hard rock, which is a dead thing — and ought to be a dead thing in every photograph — is just as much moving as if it were drapery in the wind. So that photography is the expression of death, and that is a serious thing with regard to its becoming a fine art, for art is the expression of life. I am prepared to acknowledge my indebtedness to photography; it has broadened my knowledge of the art of the world; it has brought home to me, and has distributed in the cottages of the poor, the masterpieces of art; it has given me a knowledge of architecture and of decoration which I could never have received without its aid. In that sense it has done well, and surely it is a great thing to have accomplished. I have seen in one single photograph the details of a building of which a whole volume of literature could not have given me an idea — surely that is something. But if it presume to accomplish the things that painting has accomplished, then it will express its limitations; but, at the same time, within those limitations there are great possibilities.

As painters, we have a big library of facts in nature, and we can take a book here and another there for reference, and from them we can compile something or give our version of history or biography, and so on; we have the power to select and to appropriate what we require for our particular purpose. I think this is an old story to you — this matter of selection; it has been dinned into your ears, I know, very, very often, indeed, and I do not want to say very much more to hurt your feelings about your camera taking in everything; but there is something to be said in favor of it. You have noticed that in a photograph the real attention is very frequently claimed by the foreground, and that foreground is less interesting than the middle distance; the distance, unfortunately, is perhaps lost altogether. A friend of mine photographed Fujiyama, in Japan, when there was a most beautiful display of delicate blue-grays, but upon development he got only a commonplace foreground and no mountain at all. The difficulty that presents itself to you, then, is whether it is possible by means of the camera to express the particular thing which has impressed your mind as being beautiful. Now, in the construction of a landscape, you feel that the proportion of parts of light and dark which are acceptable to you should be just; that the counterpoint of your light should be to a certain extent emphasized; that the counterpoint of your dark should also be in its proper place, and that all the values of your line and contour should be agreeable and expressive of the whole. You say that is a difficult thing; I do not think it is. For instance, this exaggeration of the foreground may be turned to account. You may put down a little point of light — a stone, or a piece of wood, or anything of that kind, and you know it will be bigger than it appears in nature; but if it serves its purpose as a counterpoint of light, an artistic person will see that an artist took the picture. Remember, too, that a figure claims more attention in the area that you cover than any other part of your picture; if you paint a landscape of six feet, and put in a figure of two inches, ninety-nine people in a hundred will look at the figure to the exclusion of the landscape, and all things that live have that interest in proportion. But this is the difficulty: When you have a figure in your landscape, be careful that the background of the figure does not interfere with its true value within the picture. If you carefully notice any good landscape you will find that in a most subtle manner the painter has subdued the details surrounding the figure; you do not notice it, because the attention is concentrated upon the figure, and it is so subtly done that the detail reasserts itself at a certain distance from the figure. You may say you cannot do that in photography, but with care you can get a suitable background for your figures if you want them posed within the picture.

A word with regard to details in photography. Photography analyzes everything in the most thorough manner, and this analysis is extremely useful to painters, because it gives us the normal construction, say, of a plant, and saves us a great deal of trouble in sketching. This may work to our disadvantage, because it does for us rapidly what we ought to take months to do. In our sketching of those details from nature, we learn more, perhaps, of the construction of the plant, botanically speaking, than we could learn from photographs. Still, in these hurrying days it is very useful to have a photograph of some detail ready to hand in order that we may know that we are constructing things properly. Take, for instance, the dock leaves that David Cox always put at the edge of his river pictures. Some of the crafty ones vignette the bottom edge of a picture, and I think that is quite right and artistic. David Cox generally put dock leaves there; they were perfectly right in tone and color, but they were often not right in the drawing; and if he had had a photograph of dock leaves he would probably have got one or two characteristic little touches that would have made them absolutely correct. They are quite correct enough for me, because he was not painting a picture of dock leaves, but a picture, say, of rolling clouds and distant hills and breezy meadows. But we do not make excuses, now, for men who, in the details of their immediate foreground, do not observe the construction of plants, and I believe we are to a great extent indebted to photography for the improvement which has taken place.

Another point is the straining after effect and popularity. It is equally to be deplored among painters who paint the kind of subjects that play to the gallery, and who take a literary subject as an artistic theme, and consequently fail. I think photographers are sometimes tempted to do this sort of thing — the lovers at the stile and so on. It is very charming in its way — very delightful; but when pushed to the extreme, the purpose is so obvious that the charm is destroyed. I need not caution you against pushing this idea to an extreme; we see too much of it in our own art. I often think, when I look at a picture, "What does the man want me to look at? He has given as much attention and loving care to painting that pot as to painting the portrait; now, which am I to see and admire — the pot or the portrait?"

I want you to feel that there are possibilities in landscape photography that have not yet been quite fulfilled. What is the quality that gives us the sensation that a thing is alive? You say it must have an outline, and you cannot make a dozen outlines as Raffaelle did in his preliminary drawings, and an instantaneous photograph of a horse does not give the idea of movement; but it is curious that in the displays we have seen recently the aggregate of a hundred instantaneous photographs does give the sense of movement, and, therefore, it is the aggregate of these things that we have to paint. Now, aggregation is got, you say, in another way — by putting the image out of focus; but, if you do that, how about the things that ought to be at rest? When I last spoke here I suggested that you should take two photographs, in one of which those things that you want to move and to express life should be out of focus, while the other should be very sharp for

Negative by H. C. Myers, Boise, Idaho.

STORM POINT, DE LAMAR MOUNTAIN.

the representation of hardness and solidity and rest. I am not a photographer, and simply throw out the suggestion that a combination of two such photographs would give you something corresponding to the feeling of the thing in nature.

Then in respect to breadth. It is impossible to paint every leaf on a tree, but you wish to give the sensation of those myriad leaves existing. We know how difficult that is in painting. In photography it is sometimes a great deterrent to our acceptance, because in the insistence of sharp analytical detail you lose, I think, greater qualities than you gain. I think that sometimes what is called a really technically good photograph is the least acceptable to an artist; but the question is, what is a technically good photograph? My answer is, not the one that is scientifically good, but the one that conveys the best impression of the place. Now, if the subject of your photograph impresses you, we will say in its expression of daylight — the full joy of day, with its light and shade and its sense of joy and exhilaration — well, if you can get that into your photograph, never mind whether the little pottering detail of a leaf is right or wrong; if you can get that big fact — that is the predominant fact. It takes more than a single swallow to make a spring; and no matter how beautifully a single detail may be photographed, it does not necessarily follow that you have given any idea whatever of the place. That is why so many people condemn photographs; no matter how slight a sketch may be, it often gives a better idea of the place than is given by the absolute delineation of a photograph.

I should like to add one more word with reference to composition. Be sure of the real thing that affects you; do not be led astray by some little thing which may only cover about a hundredth part of your plate, when the real cause of your emotion may be the conjunction of several other things. As painters, we are sometimes moved very strongly by some conjunction of form or color, which may be altogether lost in the preponderating masses within the area of the canvas; it is the same with the photographer, and therefore it is as well to make up one's mind whether it is that particular thing or whether it is a bigger thought that is the real cause of your appreciation. Alfred East.

THE LANTERN.

SOME LANTERN NOTES.

Two good points in a landscape slide are a strong foreground and an atmospheric distance.

A true positive of the negative can only be obtained by a correct exposure for the developer we are using.

Slides to be used with an oil lamp may be distinctly thinner than those to be used with the lime light, and these, in turn, thinner than those used with an electric light.

An under-exposed lantern slide, lacking in detail, is useless, and if intensified with one good blow from a hammer, it will be found to have as much detail in every part as it deserves.

To show a slide to perfection, the lantern sheet should be perfectly opaque. Many so called are at present on the market, but they are far from being opaque. After the front has been coated with a pure white pigment, the back should also be coated, it being best to

Negative by J. L. Wingate, Mount Pleasant, Iowa.

FLASH-LIGHT PICTURE.

use a black opaque pigment for this purpose.

If a lantern slide has been toned with uranium, and has been carried too far, or you do not like the color, immersion in a weak bath of ammonia and water will restore the slide to its original state.

Gelatin is a substance which absorbs moisture and which undergoes decomposition much more readily when damp. To reduce this source of impermanence in a slide, it is best to see that it is bone-dry, and that the mask is the same before binding up.

Lowering the temperature of the room or developer generally slows chemical action ; therefore, warm the developing solutions and dishes to about 60° Fahr. A good method of doing this is to place the developing dish into one of larger size full of warm water.

With regard to lantern slides, it may be taken as an axiom that the photographic representations of things which are large in themselves make the best slides and show to the best advantage, and the reason for this is that when they are seen on the screen they are magnified only approximately to about their usual size.

In making slides by reduction through the camera, a good plan is to make a screen to assist in focusing by coating an old negative plate with black varnish, and, when dry, ruling a series of lines cut through the varnish with a pocket-knife, so as to show clear glass lines. This is inserted in place of the negative, and it will be found much easier to focus by. When focused sharp, take out, and replace with the negative to be reduced. S. L. C.

LANTERN SLIDE POINTS.

One of the best developers for slides is rodinal — strength, 1 part to 30 or 40 parts of water. This gives an image almost like a fine steel blue-black stain, and quite grainless. Moreover, it never stains or fogs, can be so easily modified by dilution, or vice versa, and will keep better than any of the newer developers.

Formalin will most probably be largely used by slidemakers this winter, and rightly so, as there is no gelatin hardener which makes the film so absolutely repellent to moisture. But it must be the last solution used on the slide, as intensification, toning, or any similar after-treatment, are practically impossible when formalin has previously been employed.

Always back lantern plates with some good backing to obtain the very best results. If you do not wish to take the trouble of doing this, place a piece of red or black velvet behind the lantern plate when exposing same, as the film on a lantern plate is sometimes almost transparent, and would let a quantity of actinic light pass through.

R. W. K. G.

THE FINAL ITEM IN SLIDEMAKING.

Having developed your lantern slide, fixed and washed it, before setting it up to dry never fail to wipe it gently on both sides with a pad of clean, well soaked cotton wool. This will clear up the plate finally and remove any scum or air bubbles, but the cotton wool should be perfectly clean and well washed in clean water, for if it contains any particles of grit the slide is sure to be marked and irretrievably ruined, the last state of that slide being worse than the first.

W. H. K.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

(Copyright, 1898, by F. Dundas Todd.)

V.

The strongest light should ordinarily be concentrated on the principal point of interest, although it may often happen that the very opposite course should be followed, namely, the most intense shade, but of this I shall have more to say anon.

A very great number of photographers often misunderstand this first rule and give to the face of the sitter a lighting that is nothing more than a mass of whitewash (Fig. 34), and yet when fault is found with this they are mystified, because to their mind they have produced a result that closely conforms to the rule.

Although it is necessary that the most intense light be concentrated upon the face, that "light" need not be so intense that it prints white; in fact, throughout the entire picture the actual "whites" should occupy but an exceedingly small space; but small as they are they should be so managed that they blend into the half-tone with delicate softness almost imperceptibly, so that when they do appear they are only "whites" because of the contrast in the balance of the picture.

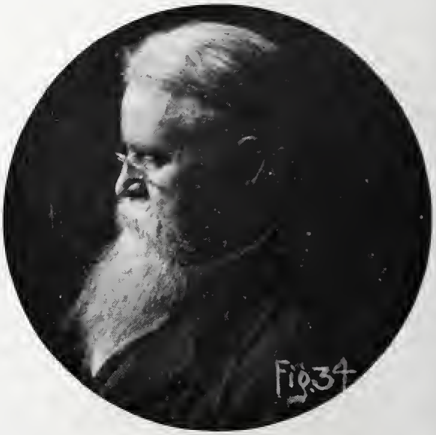


Fig.34

We are taught that contrasts produce "brilliancy," and this is true; but it is only so long as they are delicately handled that they have that effect; otherwise, instead of "brilliancy" they will produce harshness and crudeness. Mass your effects and obtain the effect of your massing; the eye sees a wealth of detail only by adjusting itself to different planes, and if this is so, then why should the photographic "artist" attempt what the eye does not see and which his more artistically educated brother, the painter, takes especial pains to kill and render nonobtrusive.

In trying experimental "lights" on your sitter, do not open your eyes wide and stare, but, instead, half close them and look at your model. You will be astounded at the richness and depth of color and shade that you will see. Close the eyes only sufficient to slightly blur the image and kill the detail; then, holding in mind what you have seen, turn to the camera and strive for it. I wish to impress upon you very strongly the necessity of lighting the subject so as to accord with the general "feeling" of the picture. For instance, if the subject should happen to be a bright, laughing child, let the whole surroundings be expressive of light and life. In such a case a dark and somber background would not do except for "sensationalism," which is a thing to be avoided. Art

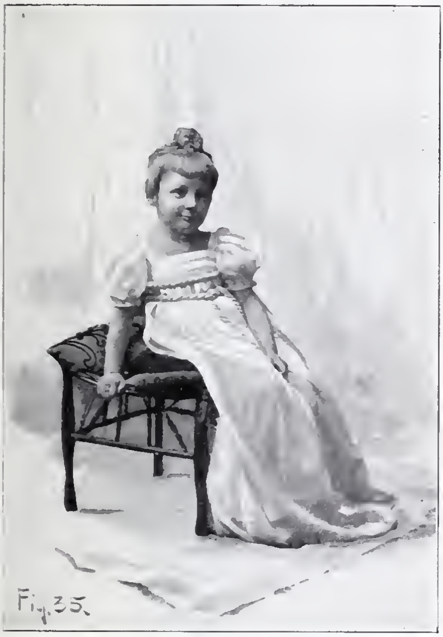


Fig. 35.

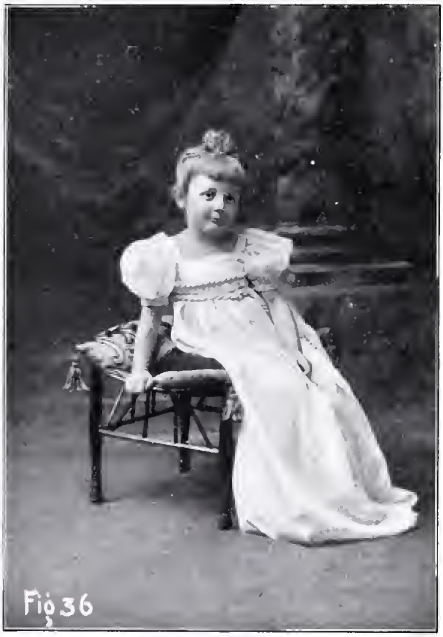


Fig 36

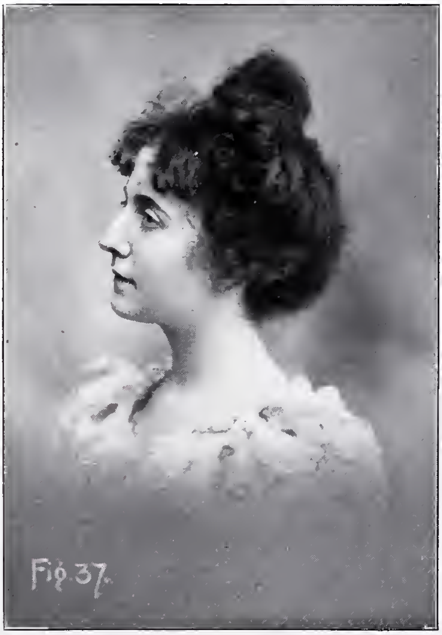


Fig 37.

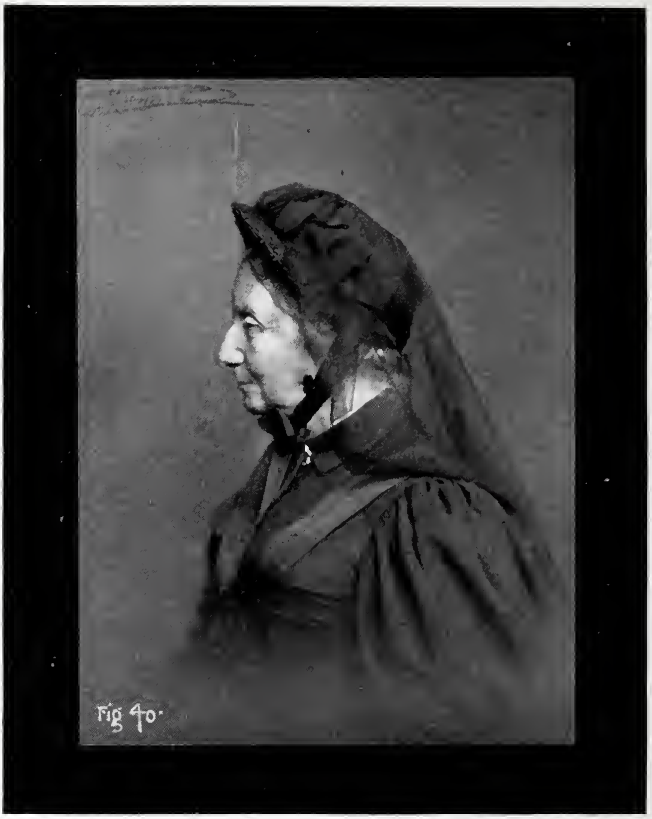


Fig 40.

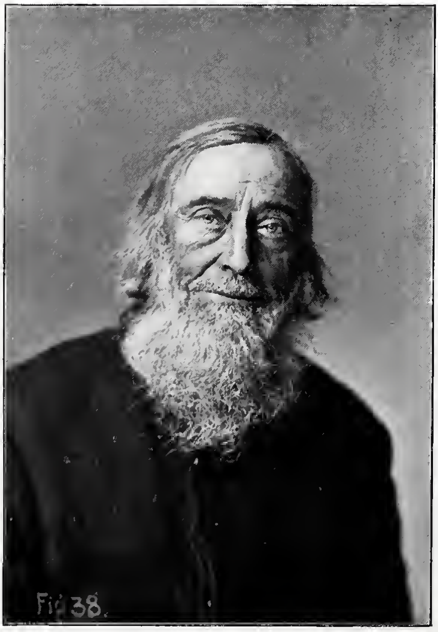


Fig 38.

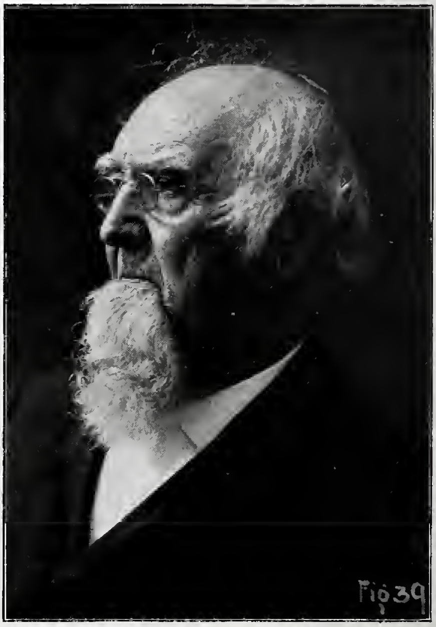


Fig 39

never deals in trickery, but has everything in accord with the central and principal subject. (Figs. 35 and 36.)

Again, the figure of a pretty young woman should be generously treated with light because when we analyze our feelings we know that every form of light and airy happiness is unconsciously suggestive to our minds of light (Fig. 37). On the contrary, the face of a man should be treated with a smaller and stronger light, thus giving us a greater depth of shadow as carrying out the feeling which we again unconsciously recognize that man should be stronger and more rugged in character; therefore, let the general effect of your picture carry out that idea.

I would direct your attention for a moment to Figs. 38 and 39. In the first (laying aside for the nonce the composition of the picture, which is very poor) the lighting is not in sympathy with the feeling. The face is full of character, which the photographer has made no attempt to represent. He has been positively blind to the wealth of artistic beauty which lay right to his hand. The flat and even-toned background lends no touch of "feeling." A face so full of strong character should have been treated with a small but strong light and a dark background, as in the other figure (39).

In Fig. 40 we have a beautiful example of harmony and feeling. The "widow's weeds," suggestive of sorrow, and the face of resignation, is grandly supplemented by the low-toned background and the border of black, and the entire picture still further aided by the grayish tone of the print (which unfortunately cannot be reproduced in our engraving) combines to make this a work of art—a picture which will stand continued observation without tiring.

In a picture there ought always to be present (no matter how low the tone) one high light. A high light is that point on the object which reflects the light to the eye of the observer. OBSERVE is the watchword for every photographer who is endeavoring to cultivate his artistic perception, and constant application will surely develop that faculty in the highest degree.

We are told that variety creates interest, and although this is undoubtedly true, yet I would respectfully suggest that variety is also apt to create confusion; and therefore, lest the variety of suggestion which has been already incorporated in this and the previous chapters should tend to produce this latter effect, I recapitulate the points already laid down:

1. The law of the stable triangles and their adaptation.
2. The application of the "line of beauty" to the female figure.
3. The preponderance of the upright triangle.
4. The covering up of the actual triangles by the lines of the figure and drapery and the avoidance of the appearance of the construction lines.
5. The use of "light and shade," and the relative meaning of the terms, together with the three divisions of the subject.
6. The necessity of *relief* in large work as being of primary importance.
7. The meaning of harmony.
8. The carrying or conducting of the light (or shade) around the picture in order to produce an artistic result.

And, finally, the careful and intelligent rereading of what has already been written and demonstrated, in order that these principles may be so firmly fixed in the memory that there will be no difficulty in understanding what is yet to follow.

Above all things, I quote again, "All things are given to him who will persevere." R. JAMES WALLACE.

WANTED, PORTRAITS.

In future articles Mr. Wallace proposes dealing specially with heads, busts, three-quarter and full-length figures, groups, etc. He is much in need of pictures to illustrate his points, and he specially requests that all readers who are interested will send him prints. Please send *at once*.

"FIRST STEP IN PHOTOGRAPHY" is as plain and easy to understand as a primary school reader.

WILLIAM REUTER.
Sundance, Wyoming.

THE DARKROOM

WHAT IS THE LEAST ALLOWABLE WASHING FOR THE NEGATIVE?

Herr Janko has set himself to answer this question, largely in the interest of the tourist who oftentimes is constrained to limit himself to the ordinary bedroom supply. Although he used ordinary reagents, such, for example, as permanganate of potassium, for estimating hyposulphite in the wash waters, he prefers to use a more directly photographic test in determining whether the negative has been sufficiently washed for practical purposes, this test being intensification of the negative by the uranium process. If no red stain appears, the hyposulphite may be considered as practically removed.

Negative by Gus Horlin, Chicago.

IN SOUTH PARK, CHICAGO.

To determine the limit at which hyposulphite ceases to affect the intensification, thoroughly washed plates or films were soaked in very dilute hyposulphite solutions, until it was estimated that the water in the film and the solution had thoroughly interdiffused. After such treatment with one of hyposulphite in 10,000 of water, a decided red stain appeared on intensification; but if the hyposulphite was from one in 12,500 to one in 16,000, the stain was not very definite; and when the dilution was as far as one in 20,000, no red stain was traceable. The conclusion is that a plate washed until the surrounding water contains no more than one of hyposulphite in 20,000 is safe on intensification, provided that sufficient time has been allowed for thorough interdiffusion between the liquid in the gelatin layer and the water in the dish.

Under favorable conditions, and with a cubic inch of water for each square inch of surface, this equilibrium of interdiffusion was complete in two hours, but was not complete in one hour. In a series of experiments, three successive treatments with water, one cubic inch to a square inch of surface, sufficed to sufficiently wash a negative if two hours were allowed for each treatment, and the author estimated that three cubic inches of water for each square inch of coated surface is the minimum possible of water for satisfactory washing. By more frequent changes of water the time may be shortened, but the total amount water of used is increased.

Using water as above stated, and setting the plates vertically in the water, as in the old silver dipping bath, the conditions for satisfactory washing are as follows:

3 changes with 2-hour intervals.
4 changes with 1-hour intervals.
6 changes with ½-hour intervals.
7 changes with ¼-hour intervals.
10 changes with 5-minute intervals.

Thus it will be seen that by increasing the water a little over threefold, the time required for washing may be reduced from six hours to fifty minutes.

Probably the most suitable washing vessel for the tourist wishing to work according to the teaching of Herr Janko's experiments would be a light celluloid vertical dipping bath, an inch front to back and the size of the plate. The water supply available could be estimated and the intervals for change determined.

THE PRINTING ROOM

A CHEAP METHOD FOR MAKING MINIATURES AND PORCELAIN PICTURES.

If one wishes to make really artistic pictures, there are none so beautiful as miniatures, and pictures on porcelain. Heretofore it has been a somewhat difficult and expensive undertaking to make pictures on porcelain, but the following is a cheap and easy method for sensitizing, printing and finishing the pictures. Carefully measure out:

Water (distilled)	2¼	ounces
Rochelle salts	5	grains
Silver nitrate	30	grains
Ammonium chloride	2½	grains
Alum	12½	grains
Citric acid	15	grains
Gelatin (preferably emulsion gelatin)	2	drams

Heat the water and dissolve the gelatin in 1¼ ounces of it, the silver nitrate and citric acid in ½ ounce of it, and the rochelle salts, ammonium chloride and alum in the remaining ½ ounce of the water. When the gelatin is dissolved add to it the solution of alum and salts, stirring well with a glass rod. This will turn the gelatin into a jelly-like mass. Then pour in the silver solution gradually, when the mass will dissolve. This solution must be kept hot by keeping the glass containing it in a pan of hot water, for when it cools it will turn to a jelly and cannot be used for coating plates while in that condition.

All of this work can be done with ordinary lamp light. Take the solution thus prepared and pour some of it in the center of a porcelain plate, which has been washed clean in hot water and is still warm. Tilt the plate from side to side until the whole surface of it is covered with the emulsion, drain off the surplus and set the plate on a table where it can lie perfectly level until dry. Care should be taken that the gelatin is spread uniformly over the surface of the plate, and all air bubbles removed by slightly touching them with the tip of the finger while coating, but under no circumstance touch the film after it has set. While wet, the plate should be kept in a place perfectly free from dust. If the solution is too thick to flow smoothly add a little water — it should be thin enough to run quickly and smoothly over the plate while both are warm. Drying must, of course, take place in the dark.

When thoroughly dry the plate is ready to be printed and is handled in the same manner as paper. First place a piece of printing paper behind the negative and print to the shade desired, carefully timing it in order to get the proper exposure for the porcelain plate, as it is impossible to watch the progress of printing on the porcelain. When you have made a print on the paper remove it and place the porcelain in its place, film side against the negative. Print the same length of time as was done with the paper. Remove the plate and tone in the ordinary "lithium" toning bath, or any other standard bath. When toned, wash in running water and, to insure permanency, fix again in a weak hypo solution for about fifteen minutes. Wash thoroughly in running water and stand on edge to dry.

It is always a good idea to place the picture in a weak solution of alum for about half a minute after fixing, as this hardens the film and prevents it from being so easily damaged.

In order to color this print use transparent water colors and a fine camel's-hair brush. Use the colors very weak at first and work them into the gelatin a little at a time. When applied the colors rapidly sink into the gelatin and when once in cannot be removed, so great care must be taken not to get too much on. The resulting picture is most beautiful. The appearance is that of nature, and does not look as if the paint was spread on the surface.

The same emulsion works equally well on celluloid, glass and other materials. When used on glass it gives a warm and beautiful transparency. When coating porcelain either the ground or glossy side may be used, but in my opinion the glossy side produces the prettier picture of the two. Albert C. Allen.

A NEW EXPERIMENT.

A local paper relates the following interesting experience of a photographer:

"C. B. Gray, of Boston, employed by the passenger department of the Clover Leaf, to secure midwinter views by flash light along the right of way, rode nearly all the way from Toledo to Delphos on the pilot of the engine of passenger train No. 5, a few evenings since, with the mercury below zero. The electric headlight was equipped with calcium to afford a better light for taking flash-light views, of which Gray secured many. Gray was almost stiff from cold when the train reached here."

This experience certainly must have been an interesting one for Mr. Gray. I doubt very much if the pictures secured by these remarkable methods would amount to much. I should be pleased to hear from readers of the Beacon who have any knowledge of work of this description.

W. R. Tilton.

Prairie Depot, Ohio, Dec. 13, 1898.

Mr. Editor,— I should be pleased to have you use the above, and make editorial comment on same. The subject, I believe, would prove of interest to many of your readers.

Respectfully, W. R. Tilton.

[We feel comment is needless. We

would be more than pleased to see prints from the negatives made on this occasion, *if any exist.*—Ed.]

Crookston, Minn., Feb. 17, 1899.

Mr. F. D. Todd, Editor Photo-Beacon,
Chicago, Ill.:

Dear Sir,—Will you kindly give me, through the columns of The Photo-Beacon, (*a*) the basis for the measurement of the speed of shutters as used on cameras. For example, the speed is cited as being $\frac{1}{10}$ second or $\frac{1}{100}$ second, and so on. From what basis do you start? What makes a second? All can recall the old table: 3 barleycorns one inch, 12 inches one foot, etc., or 60 drops or minims of distilled water one dram. Here you have some tangible basis to start from; but what have you to start from in the measurement of the speed of a shutter?

(*b*) What is the average speed of the shutter on the fixed-focus style of camera?

(*e*) When and what constitutes the difference between a snap shot and a time exposure; that is to say, when do you pass the line of demarkation which separates a snap shot from a time exposure? Very respectfully yours,

Henry M. Green.

Answer.—(*a*) We assume this is a little bit of sarcasm; but, of course, we may be wrong, as individuals of the editor's nationality are supposed to be rather deficient in humor.

(*b*) One-tenth of a second.

(*c*) We have always considered a time exposure as being one that could be managed by removing and replacing the lens cap with the hand, say ¼ second or longer. A snap shot will, therefore, be one less than ¼ second.

Kirkwood, Ill.

Editor of The Photo-Beacon:

Dear Sir,—Will you please answer the following questions in The Photo-Beacon for me:

1. Inclosed find a print of a group; the back persons are very dark and the front ones are not. What is the reason of this?

2. Why is it that some pictures tone quicker than others?

3. I have a negative which became covered with small particles of dirt while drying. Is there any way I can remove them and save the negative?

4. Will you please give me a good formula for making something to put on a ferrotype to keep the prints from sticking, and how often should this be put on the ferrotype?

5. To take a picture by moonlight, about how long should the plate be exposed? Yours truly,

J. H. McClanahan.

Answer.—1. The print is an untoned one and is very black, but we think it is a flash-light group. The figures in front are near the flash lamp, and by the law of inverse squares the light falling on them is much more intense than that falling on the back row. About double the quantity of powder should have been used.

2. Thin flat negatives give miserable prints that appear to tone quickly, also prints not sufficiently washed to free them from the acid tone very slowly.

3. No.

4. Wash the plate thoroughly under the tap, then rub over with finely powdered French chalk. When dry, brush away with a perfectly dry cloth.

5. Such prints as we have seen have been snow scenes. With open stop, about two hours' exposure was given to a very quick plate.

FORMULA FOR MAKING TOLIDOL DEVELOPER.

USING C. P. CRYSTAL SODAS.

	I.	II.	III.
Water	1 oz.	40 oz.	160 oz.
Tolidol...........	1½ gr.	⅛ oz.	½ oz.
Sulphite Soda	9 gr.	¾ oz.	3 oz.
Carbonate Soda ..	15 gr.	1¼ oz.	5 oz.

40 oz. = 2½ pints. 160 oz. = 5 quarts.

Column I merely gives the proportions; column II is for 40 oz.; column III, for 160 oz. solution.

"First Step" and the "Reference Book" should be purchased by every amateur when he buys his first dozen plates. "Amateur Portraiture at Home" just touches the spot. Respectfully yours, James E. Taggart.

EDITORIAL TABLE.

Ralph J. Golsen removed on February 15 to the second floor of 80-82 Wabash avenue, Chicago, where he occupies about 8,000 square feet of floor space. This change is due to the extraordinary increase in his business demanding more commodious quarters.

John Carbutt, Wayne Junction, Philadelphia, manufacturer of the Keystone Dry Plates, announces that he has ceased manufacturing the well known J. C. Tablets and that he is now putting up the same ingredients in powder form in vials, so that users of this developer are saved the trouble of crushing the tablets as was formerly necessary.

Under the new name of M. H. Developing Powder this developer should, we think, attain still greater popularity, for we find the powder dissolves almost instantly, and gives very excellent results.

The first copy of "The Pacific Photo-Journal" reached us early in the year, and we are glad to see it, for it has always seemed to us a pity that that part of this country did not have a photographic serial all to itself. The first number is not very pretentious, but on the other hand it displays very clearly that its editor has some good sense, for he avows that his ambition lies mostly in helping ordinary people. If he fight it out on this line, and at the same time exercise business judgment, the journal ought to succeed. It is published by The Pacific Photo-Journal Company, Donoho Building, San Francisco, California.

"An Index of Standard Photograms" is the title of a work which The Photogram, Ltd., London, is compiling. Mr. H. Snowden Ward is the moving spirit, and, as the title suggests, he aims at listing the work of all photographers whose productions, through individuality or by specialty of subject, may at any time be in request, either by business men or private collectors. The index will be divided into sections dealing with professional illustrators, the publishers of photographs, celebrities, genre subjects, landscapes, etc. Some of the sections will be further subdivided, and cross references and an alphabetical index will render reference easy. Special attention will be devoted to the less known but accessible photographs in national collections or in the hands of scientific bodies or private individuals; and information facilitating the obtaining of lantern slides and process blocks will be included. The book will include chapters dealing with the important question of copyright both in this country and abroad, and with other matters of interest. The great need of such a work of reference is obvious, and we ask our readers to coöperate with the publishers in insuring its complete success, by forwarding to the American representative particulars of any series of photographs of general interest which they may possess. The American section is in the hands of W. E. Ward, 160 Broadway, New York, to whom all information should be sent, and who will be pleased to furnish any further information on request.

During the past month we have had the pleasure of receiving from the A. M. Collins Manufacturing Company a number of articles that should be of special interest to photographers. First came a catalogue of their regular stock; second, a price list of "limited lots" of card mounts, from which most men should be able to make tasteful selections at a low price, and last and not least important, specimens of their latest novelties, of which it can only be said that they are just as chaste, pretty and useful as the run of Collins' mounts are — and what better can be said about them?

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents.

All remittances should be sent by post office money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

Secretaries of photographic societies are requested to favor with brief reports of their meetings.

Subscribers advertising secondhand apparatus for sale or exchange, special articles wanted, help or situations wanted, *one insertion free.*

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

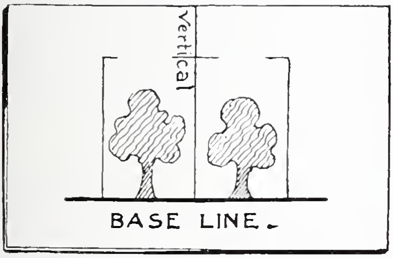
THE PHOTO-BEACON COMPANY,
TRIBUNE BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 79 Nassau Street, New York.

VIVE INTERNATIONAL STEREOSCOPIC SOCIETY

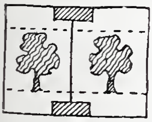
Associate Editor,
E. G. PATTERSON.

THREE IDEAS FOR THE STEREOGRAPHER.

First. To transpose the negative.— First tack an 8 by 10 card on a squared 10 by 12 board. With a glazier's diamond cut your negative, using a T-square, and cut according to lines drawn on your card, thus:



Second. To mount the transposed halves.— Procure some surgeon's silk isinglass plaster (court plaster). Put two halves of negatives together, edge to edge. On upper and lower margins (I use 4¼ by 6½ plates for 3 by 6 print) scratch film and apply a small piece of the plaster well moistened, for hinges. Here it is:



You can now fold the film side in and they will be protected, and at the same time you have less than half the weight of a negative mounted by the old method.

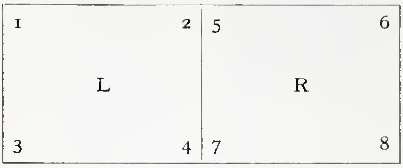
Third. To print titles on views.— Procure a piece of roll film and strip it of the gelatin. Upon this write your title with an opaque ink (I use indelible ink) and fasten to the film side of the right-hand negative (after transposition) with the title reading backward. Use mucilage and fasten only at the ends with a very small particle of it.

The above hints are the result of many experiments, and I believe they will prove invaluable to those doing this kind of work.—*The American Annual of Photography.*

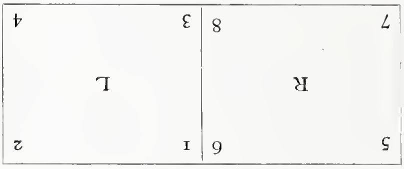
H. HARFORD WALKER.

STEREOSCOPIC WORK.

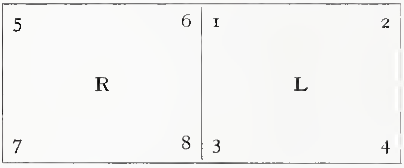
Stereoscopic photography is absolutely as easy as any other branch of photography. The print has certainly to be cut and transposed, and we hope to make this plain. It is necessary, in the first place, to have two lenses of similar foci and apertures, and for ordinary work their centers should be three inches apart. Either single or doublet lenses may be used. The only advantage of the latter is that they work at a larger aperture; any distortion caused by the single lens is corrected by the stereoscope. In choosing the subject one has to throw over all ideas of composition as applied to monocular or single lens work, and in every case such a subject should be chosen which has a prominent object within six feet of the camera; this may be a post, a tree, railings, a branch, or something of that kind. Open views are absolutely useless. Any plate may be used, but full exposures should be given, and soft, flat negatives, full of detail, tried for; therefore development should not be carried too far. Having obtained the negative, print from it in the usual way, either on gelatino-chloride or collodio-chloride or albumen paper. Rough surfaces or fuziness of any kind will absolutely spoil the results. Suppose your subject is as follows:



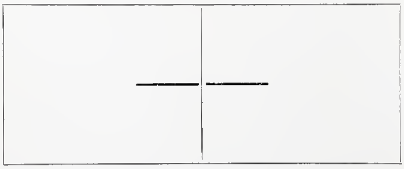
Now, if we examine the negative in the same position as it was exposed in the camera, and looking through the glass, we shall see the following:



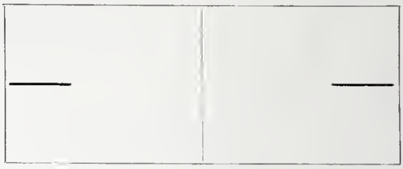
If we print from this, and turn the print the right way up, we shall get the following result:



Now, as the right-hand picture must be seen by the right eye, and the left by the left eye, it is obvious that we must transpose the prints, and the easiest way to do this is to place the print face downward on the table and draw a pencil line across the division, thus:



Now cut the prints in two, and mount so that the pencil lines come as shown below. The prints will then be right as regards position. To trim them allow ¼ inch more on the right-hand side of the right-hand print than on the left-hand print, and ¼ inch more on the left of the left-hand print than on the left of the right; be sure that the base-line in each is level, and mount with a ¼-inch separation. The width of each half should not be more than 2½ inches. The height may be full size, if desired.



A CHEAP FUNNEL.

DEAR SIR,—The last number of THE PHOTO-BEACON for 1898 is to hand and I hope every reader has benefited as much by its columns as I have done. Every "little tip" is of some use to some one, and since "we are a lazy set" (Hollinger) and would not wash our trays if they would do without it, and as there are so many things to wash and keep clean, I beg to tell you how to be supplied with clean funnels which need no washing. I use them for chemicals and solutions.

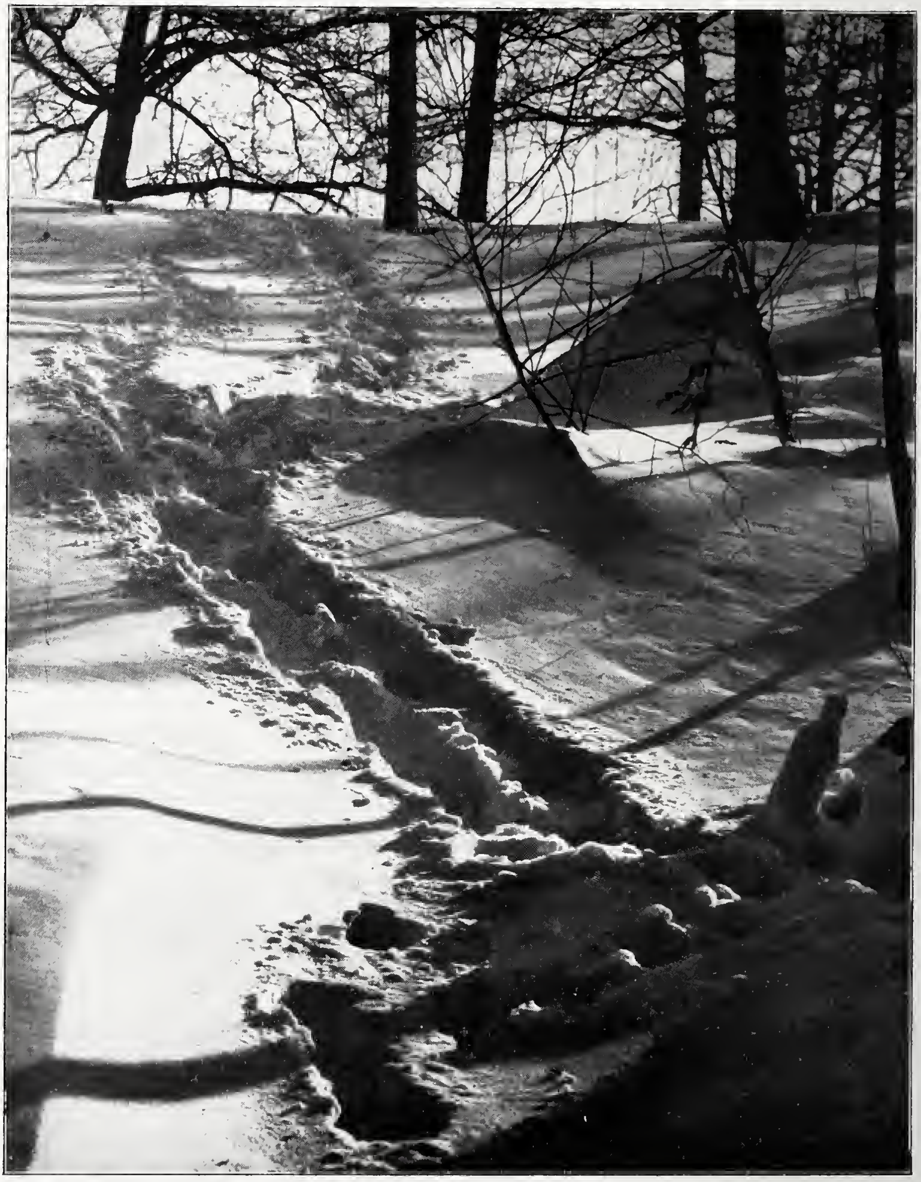
Inclosed you will find samples.

Yours truly, JOHN LENTWILER.

[Mr. Lentwiler's funnels are certainly cheap and simple. To make one he takes an ordinary used envelope, and with one of the bottom corners as center describes an arc, starting from the corresponding top corner. With a pair of scissors he cuts along the line, then snips off the corner, and the thing is done.—ED.]

COMIC SLIDES.

One may accumulate a good collection of uncommon comic and humorous slides by copying the best comic pictures from the best comic papers. If the letterpress below the picture is really humorous and worth repeating (which is not always the case) that should be included in the slide, and such slides shown for ten minutes before a lecture begins (they may be shown with lime-light even when a few of the gas jets are still lit) will keep the audience in a good humor, and while away the time for the early birds. W. H. K.



FIRST PRIZE — WINTER.

Negative by T. J. Preston, Jr., Orange, N. J.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. APRIL, 1899. NO. 4.

OUR SEVENTH COMPETITION.

Our "snow pictures" competition brought out the very creditable number of 170 prints, many of which showed very considerable artistic taste. The first prize picture ought to act as an eye-opener to many readers, as it shows how a very charming picture can be made out of very commonplace material, for really the only thing necessary here was an educated eye. We specially commend to notice the direction from which the light comes, as this very largely is what makes the picture.

The second prize picture represents in a very remarkable way the dreariness of winter, and it was this peculiar "feeling" in it that induced the judges to give it this honorable position. Possibly it may lose considerably in the reproduction.

The third prize winner aims more at decorative effect, and in this respect is original, and largely for this reason was placed third.

The majority of the pictures sent in were very weak, both artistically and technically. Composition and light and shade were seemingly but little considered, while over-exposure and under-development were far too common. As a last word we would say "red" is not an appropriate tone for a snow scene. Red suggests heat, so that a more appropriate color for snow scenes will be found in black or similar cool color.

Prize winners:

First—T. J. Preston, Orange, New Jersey.

Second—J. Steichen, Milwaukee, Wisconsin.

Third—Hy D. Allison, Dublin, New Hampshire.

FUTURE COMPETITIONS.

Competition No. 9 — Lantern slides; closes April 30.

Competition No. 10 — Branch of a tree without leaves; closes May 31.

Competition No. 11 — Interior pictures; closes June 30.

Competition No. 12 — Branch of a tree with leaves; closes July 31.

Competition No. 13 — Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15 — Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

Now, will our readers tuck in during 1899 and keep us busy? We have tried to introduce as much variety into our list as possible, so that everybody can find a place to come in somewhere, and we expect shoals of pictures to arrive every month.

To enter for any competition all that is necessary is to send a print, properly mounted; and on the mount, either back or front, the sender must write his name and address, and on the package write "competition." The judging is done by three gentlemen, two of whom are artists and one an amateur photographer. One of the artists is himself a first-rate photographer. The editor never sees a print until the awards are made, so he never loses sleep when anyone kicks about the decisions.

The prizes are:

First — A complete set of our own publications.

Second — H. P. Robinson's "Pictorial Effect in Photography."

Third — "Amateur Portraiture at Home."

In lieu of the above prizes the winners may select an amount of equal value from our catalogue.

Negative by R. N. Hughs, Atlanta, Ga.

ATLANTA, GA., January 12, 1899.
F. Dundas Todd, Chicago, Ill.:

DEAR SIR, — I am sending you, under separate cover, a picture of myself taken by myself with the camera shown in the picture. This was of course done with the aid of a mirror, and was an experiment that has no doubt been done a thousand times before, but this one seemed to be a fair result and I send to you for your examination and use any way you see fit. Yours truly,

ROBERT N. HUGHS.

"Amateur Portraiture at Home." Just the book for beginners. Price, 50 cents.

LITERARY COMPETITIONS.

We purposed that this month we would print the first prize article of literary competition No. 1, but find that from the 15th of the month when the competition closes to the 20th when we begin to make up the forms is far too short a time in which to consider the merits of the articles. We have gone over all the manuscripts once — no mean job, for there are twenty-five in all — and are more than surprised at their high excellence. In the first round we set aside half a dozen as being out of the running, and it will only be after repeated rereadings that we expect to be able to locate the prize-winners. We have called in the aid of a first-class amateur who is in the building business, so as to have expert judgment on the many excellent plans submitted. We can promise, without hesitation, a treat when the articles come to be printed. The first will appear in the May issue, the second and third in the succeeding issues.

Intending participants in coming competitions will please remember that the chief test of merit is "practical value."

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 2.—How to make a toning tray cheaply. Closes April 15.

No. 3.—How to prepare a stock developing solution. No detail is too trivial for notice. Closes May 15.

No. 4.—How to get glossy prints by squeegeeing on glass or ferrotype, and how to mount the prints to retain the gloss. Closes June 15.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life— and its consequences. Closes August 15.

No. 7.—Copying photographs.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

WATER.

SOME NOTES, CHIEFLY FOR PHOTOGRAPHERS IN COUNTRY PLACES.

The photographer who makes his dwelling far from the madding crowd has his reward in the constant opportunity for pictorial work of a kind for which the town worker must needs travel miles. But, on the other hand, the resident in a country village has to sacrifice many of the conveniences with which his urban brother can surround himself. Water supply is one — if not the chief — of these, and there is no doubt that many inexplicable difficulties are merely the result of impurities in water which the photographer has to get from where he can. A little knowledge of what these impurities are, and which are most likely to be met with in water drawn from any particular source, may, therefore, prove helpful to many.

The sources of water supply are usually rain collected from the roofs of houses, etc.; rivers and streams; wells and springs. All these are liable to contain impurities deleterious from a photographic point of view.

Pausing to enumerate these foreign matters, they are: (1) Suspended matter, such as grit, dirt, often consisting of particles containing oxide of iron. (2) Solid matter in solution, such as chalk, sulphate of lime, salt, and sometimes carbonate of soda. The two former of these mineral substances are the cause of the "hardness" of water, while other "organic" matters, derived from animal or vegetable bodies with which the water has come in contact, produce other undesirable results. (3) Then almost every natural water contains dissolved gases, oxygen and carbon dioxide being the two most frequently met with.

These impurities are liable to give rise to evils in everyday photographic work, but a knowledge of the causes will enable the photographer to prevent or cure them.

Suspended matter forms a harsh precipitate or deposit on plates and papers. Spots on prints are often caused by these gritty matters in the wash water. They usually appear after fixing, and are, no doubt, the result of ferruginous matter, which decomposes the hyposulphite, forming compounds which react with the silver in the paper. Here prevention is better than cure. Tie a small flannel bag packed with a little cotton wool to the tap or cock from which you draw your water. Renew this simple filter at intervals.

Mineral matter, like chalk, etc., is a more noticeable impurity, but not so injurious in its action. It causes a milkiness or precipitate when used as a solvent for oxalate of potash for use in platinotype process or ferrous oxalate development. It is just as well to stand the solution on one side for a day to allow the precipitate to completely settle (the clear liquid being then poured off), but if this cannot be done no harm will result in most cases. Very hard water is liable to leave a white scum of oxalate of lime on the films of plates, which is not cleared away by ordinary clearing solutions or acid fixers.

The best means of removing it is to first harden the film in a saturated solution of chrome alum (with a drop or two of hydrochloric acid per pint). When the gelatin has been thus rendered capable of resisting slight abrasion, rub it over with a tuft of cotton wool dipped in weak hydrochloric acid (1 in 80, or stronger if required). Rain or river water is generally soft, while deep spring and well waters may be expected to contain a comparatively large quantity of lime and other salts.

Water intended for use in toning baths or for making stock solutions of gold chloride or potassium chloro-platinite should be as free as possible from organic impurities, which — especially in light — are apt to reduce and precipitate the noble metals, rendering the bath or solution useless. Shallow well and river waters are most open to suspicion in this respect, while deep wells and springs yield the purest supply. The organic matter may or may not color the water, so that clearness and brilliancy is not necessarily an indication of organic purity.

Dissolved gases in water used for making developing solutions, or for diluting the developer, are the cause of transparent pinholes in the negative. Oxygen, of course, impairs the keeping properties of pyro solution. The remedy is to boil all water used for these purposes for half an hour in an open vessel, and use as soon as cold.

Economy in water is a virtue which the photographer in a country place must cultivate, and, as a matter of fact, it is quite possible to wash plates and prints thoroughly with a very small quantity of water. It is merely a matter of taking trouble and time, a commodity of which Rusticus is presumed to have plenty to spare.

Soak negatives in a dish of water for ten minutes; then remove. Place a piece of clean, fine cambric on the film, and gently but firmly pass a squeegee over the whole, so as to press out the water from the film. Repeat the soaking and squeegeeing half a dozen times, and your negative will be free from hypo. Prints are similarly treated, being laid separately on a clean glass plate, a piece of protective paper laid on the back of each, and the squeegee passed over. All this means a lot of trouble, but gives the pleasure beyond measure — the satisfying feeling that one's duty has been done.—*The Amateur Photographer.*

G. E. Brown, F.C.S., F.I.C.

"First Step in Photography" is so simple that a child can understand it. I shall have no trouble as a beginner with such a good help.

Kane, Pa. E. F. Delune.

CONCERNING THE PHOTOGRAPHY OF FLOWERS.

THE flower photographer, like the dormouse, has been obliged to lie low all the winter, perhaps, just keeping the rust from his camera by a few frost or bare tree effects. But, as a rule, there is nothing to arouse his enthusiasm and keep him out of doors with numb fingers and icy feet. He has the advantage of his brothers of the craft, in that his work gives him most models, and is most attractive in the early summer months, just when the light lasts longest, and the atmosphere is the clearest.

The cold-looking snowdrop and chilly crocus meet with a welcome their beauty certainly has not earned them, for they hint at the coming of more general favorites, and we know that now we may prepare and get our cameras in working order, for our flower subjects, like the swallows, will be coming back, filling up all the ugly empty spaces, crowding themselves into the fields and hedges, and spreading themselves out along the roadsides.

Truly, if it were not for the one great drawback in flower photography, one would feel surprised that all camera workers do not give a little of their time and interest to flowers at the time of the year when nature is so lavish with her subjects. But one must recognize the almost fatal disappointment that their lack of color will give the beginner. I do not think one realizes, until one begins this study, how inevitably color is associated with flowers. The word "poppy" conjures up to our mind the brilliant scarlet, and the "primrose" that delicate yellow color almost more than the actual shape of the flower, and so it is with the majority. Some photographers will not give in to the inevitable, and with special lenses and plates get such quality and gradation of tones into their work as to give a realistic effect. Perhaps this compensates them and atones a little for what the camera is not able to render, but to others it only emphasizes the want, and the fine technic of light and shade, whose cleverness they are bound to admire, only makes them feel sadder at the camera's limitations.

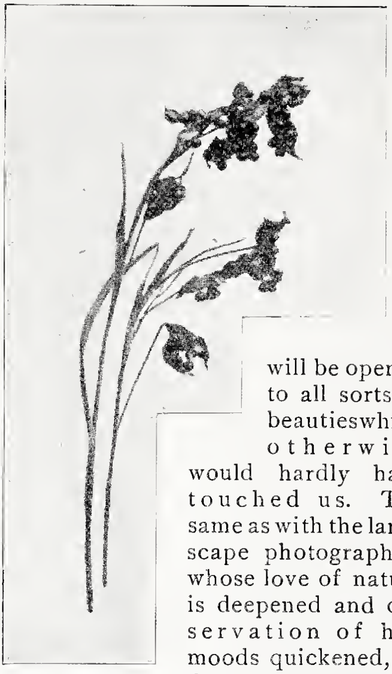
It seems almost the best plan to face this disheartening fact at the outset, and while reluctantly giving up all idea of color, let all our energies go to the consideration of form. Let our aim be to make the very most of the camera's capabilities, and, as it is a fair draftsman, give it drawing to do instead of painting. Good drawing is surely better than a disappointing imitation of paint. The most intricate network of grasses, winter branches, groups of thistles, the camera can draw, not only correctly, but gracefully; hanging trails of leaves and sprays of blossoms lose nothing of their grace of form by reproduction.

A method of making the most of the advantages the camera gives us with flowers is to treat them conventionally and try and form them into a decoration. If they are arranged as a design, the eye is more attracted to the form and is not so inclined to miss the color.

For this reason one cannot help regretting the practice of photographing flowers in vases, unless they are merely to be looked on as specimens. It is impossible to form the flower into any kind of design when a vase is in question, and unless it be most carefully chosen it often makes the flower appear quite secondary in the composition.

Open-air work is fascinating, but one is rather dependent on still days. Sometimes an almost imperceptible wind will make a flower model as whimsical as a spoiled child. Just when one has succeeded in focusing, it will toss its bloom, and shake its leaves, and then there is nothing to do but wait patiently until the breeze has left off teasing. The background, too, presents a great difficulty with open-air work, so seldom is a suitable one to be found, so that the worker is often driven to the studio or greenhouse. The chief difficulty with picked flowers is that they give the photographer so little time, and if they do not exactly fade they yet lose a little of their growing freshness. This is a drawback, as often the first plate just shows what might have been and we are naturally anxious to bring our experience to bear on the next, when it is disappointing to come back and find our model with a distinctly "tired" appearance. If we have once let ourselves become interested in the photography of flowers, our eyes will be opened to all sorts of beauties which otherwise would hardly have touched us. The same as with the landscape photographer, whose love of nature is deepened and observation of her moods quickened, so does the flower photographer find new pleasure in the country. In his walks and strolls he is gladdened by many a graceful form, and often the most modest ornament of nature which had grown accustomed to neglect receives a deserved admiration. Life is so full of interest, nature has so many treasures unrecognized, that anything that can bring us in touch with them should be welcome and worth considering.—*The Practical Photographer.*

Carine Cadby.



The amateur photographer all over the country is doubtless today thinking seriously of negative making. In a few weeks printing will be in his thoughts, and then comes the question of mounts. The A. M. Collins Manufacturing Company, Philadelphia, is already in the field with a very complete catalogue of cards suitable for the amateur, and we would suggest that our readers may find it to their advantage to secure a copy.

CONVENTION DUTIES.

When the bromide patent was abroad in the land and the processmonger was waxing rich, the poor duped photographer changed his collodion formula as often as he had the opportunity (and the means) to buy the latest secret one of some noted operator. His competitors were his enemies from force of habit. As each believed the other's success due to a better process, the estrangement was not easily broken. With the organization of the old N. P. A. these restrictions began to give way. In technical qualities most especially, photography advanced rapidly. It was soon learned that what one gave to his fellows came back tenfold. Exchange of ideas suggested new ones. The occupation of the processmonger was gone. The civilities of the day were exchanged among competitors in place of the stony stare of former days. The dry-plate worker of recent date can never fully realize the petty jealousies and the bickerings of the old wet-plate man. It took some time to pierce his crust, but when he was touched he gave all he had.

The life of the old society was not in vain. The marvelous growth of photography is largely due to these early conventions. They furnished the feast which the journals soon spread. The influence of the convention is far-reaching. Not a photographer in the land, though he never attended one or sent an exhibit, but is the better for their existence.

While admitting that all are under obligations to the association and should feel it their duty to help sustain it, we are not going to ask you to come to the meetings or prepare an exhibit because of that obligation. The personal benefits are so great that should these not appeal to you it would be useless to appeal to your sense of duty. As a matter of practical education, the school of photography conducted by the American Aristotype Company is one of the most important features of the convention. Its corps of instructors is the best obtainable. The value of seeing a photographic manipulation is too well known to need any argument in its favor.

The art annex is a school of infinite variety in which he learns the most who sees the most. Prof. Lorado Taft, of Chicago, will give an art lecture illustrated by stereopticon slides. Mr. Hollinger, of New York, will give one of his characteristic talks on "How to Get Good Prices."

The royal manner in which the association has been entertained at Celoron is a sufficient guarantee of a good time coming. The educational advantage of preparing an exhibit will repay you for your time and material without any regard to the after-results. Infuse a little enterprise into your work. It will relieve the drudgery. Lake Chautauqua is the ideal spot for an outing trip.

For any information in regard to transportation, hotels or for entry blanks, prize lists, etc., apply to

George B. Sperry, Sec. P. A. of A.,
319 Summit street, Toledo, Ohio.

PHILADELPHIA PHOTOGRAPHIC SALON, 1899.

The Pennsylvania Academy of the Fine Arts has the honor to announce that under joint management with the Photographic Society of Philadelphia, the Philadelphia Photographic Salon for 1899 (second year) will be held in the galleries of the academy from October 22 to November 19, 1899.

The success of the first salon has conclusively demonstrated the existence of a field for an American exhibition devoted exclusively to pictorial photography in its highest sense.

The aim of the salon is to show only such pictures produced by photography as may give distinct evidence of individual artistic feeling and execution, rigidly selected by a jury composed of well-known artists and artistic photographers, whose certificate of acceptance shall be the only award.

All those interested in the purpose of the salon are invited to give it their cordial support and encouragement, both by submitting specimens of their best recent work and by making it favorably known to others.

This preliminary notice will be followed in due course by a full circular, with all details, entry forms, etc.

The Pennsylvania Academy of the Fine Arts,
Edward H. Coates, President,
Harrison S. Morris, Secretary.
The Photographic Society of Philadelphia,
George Vaux, Jr.,
John G. Bullock,
Robert S. Redfield.

Philadelphia, Pa., Feb. 10, 1899.

SOLDERING.

Mr. Lyon, on Thursday, February 2, gave one of those pleasant little informal conversational demonstrations which are often more helpful and instructive than a carefully written out discourse. The number of handy amateurs who are everlastingly altering their photographic apparatus is now very considerable. Mr. Lyon demonstrated how the amateur can best make and manipulate the little brass fittings which are now an essential part of every modern camera.

General Advice.—When metal working, sit at a firm table and low seat, so that the elbows may rest firmly on the table. Instead of making a complicated metal casting, it is better and quicker to build up the piece out of parts, using hard solder.

Soft Soldering.—As a flux use hydrochloric acid saturated with bits of zinc. Keep the bottle covered to keep out dirt. Do not use more solder than is necessary; cut it up into *small* pieces and arrange in position before heating. It is often much better to arrange the work so that the flame can be taken to the work rather than the work taken to the flame. Carefully clean (with file and emery paper) the parts that are to be soldered. Apply heat slowly just at first, or the liquid flux, suddenly boiling, may disturb the position of the small parts and small pieces of solder. After soldering, throw the work into lime water to "kill" any acidity of the flux. A bunsen burner held under the work properly supported gives a ready and convenient way of applying heat. For applying heat to small parts, Mr.

Lyon showed a tool used by working jewelers, called a soldering iron. This is, however, a straight piece — 6 inches long — of stout *copper* wire. One end is thrust into a stout cork and forms a handle. The instrument is held by the cork, so that toward the other end the blow-pipe flame may heat it. Heat is thus conducted to the further end or point. Thus, so long as the copper wire is in the flame, we may use its point as a means of applying heat. (This is a "tip" well worth remembering.)

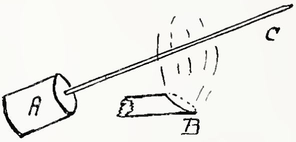
Mr. Lyon thinks that the blow pipes as usually sold have too small an opening, and that this may advantageously be enlarged with a rimer.

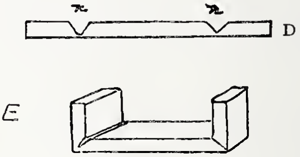
Hard Soldering. — The solder is made by melting one part of brass with two parts of silver. Roll to thin plates and cut into quite small bits, say ⅛ inch (or less) square. For a flux, rub a piece of borax on a bit of slate slightly moistened with a few drops of water. Apply the flux (like thin white cream) with a small paint brush to the parts only where the solder is wanted. Arrange the tiny bits of solder *in situ*. Hold the work on a fairly large piece of charcoal. Apply blow-pipe flame gently at first, lest boiling flux disturb the small parts and bits of solder. Then increase heat until solder just nicely runs. Quench with very dilute sulphuric acid and water. Place in small copper vessel with dilute acid and bring to the boil. This greatly assists in the final "cleaning up."

Instead of charcoal support, pumice stone *may* be used, but the charcoal is better. In a complicated form, it may be necessary to fasten the parts together. This may be done by bending strands of fine iron wire round the various parts. When soldering, heat the thicker parts first. The solder tends to draw toward the thicker parts. Mr. Lyon's demonstration was greatly appreciated.

Hermes.

Postscriptum. — In the subjoined sketch we show the jeweler's soldering tool. A is the cork into which the stout copper wire is thrust. At B we see the gas flame heating the copper wire. The high conductivity of the metal quickly makes C hot enough to work with. In the second figure we show one of those little brass staple-like forms which every camera-maker has need of in considerable number. D shows us an end view of a straight piece of brass. Two nicks, *n n*, are filed where the angles are to be. The two ends are then carefully bent up so as to close the nicks, which are now made solid again by soldering. At E we see the bent form with one end soldered and the other still slightly open.





NO KODAKS BUT EASTMAN KODAKS.

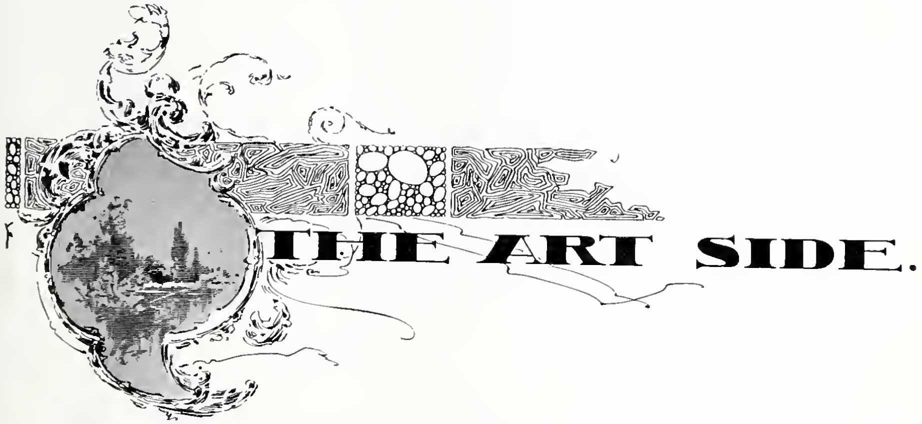
FRENCH COURT DECISION.

Dispatches from Paris recently received report an important legal victory for the Eastman Kodak Company in a suit brought against Messrs. Kreguner & Schmand, involving the use of the word "kodak." The interesting feature of the legal battle was the claim of the defendant company that "kodak" had become a general word, and that in using it they only exercised a right which belongs to every manufacturer.

In its decision, however, the Tribunal of Commerce held that the Eastman Company has always used the name, kodak, on its catalogues, and that Doctor Kreguner's contention that the name applies generally to film apparatus is not valid. That, on the contrary, the name of kodak only designates the apparatus manufactured by the plaintiff company, which always carefully pointed out to its customers "that no photographic apparatus is a kodak unless it is manufactured by it and bears its trade-mark."

The court fixed the damages at 1,500 francs, ordered the publication of the judgment in five Paris and provincial newspapers to be chosen by the plaintiff and paid for by the defendant, ordered the defendants to destroy all circulars containing reference to the kodak or the Eastman Company, and ordered the defendants to pay all costs.

In response to a query as to the significance of the decision, Mr. Eastman stated to the *Democrat and Chronicle's* representative that the finding of the court was important in that it fully established in France the right of the Eastman Company to the exclusive use of the word "kodak." "This decision recalls," said Mr. Eastman, "our suit for the protection of the word kodak in England, where it had been appropriated by a bicycle company, which obtained a copyright on the word as applied to bicycles. In the English courts, as in the present case, we established our exclusive right to the use of the word. The charter of the bicycle company was annulled, and the word kodak, as applied to bicycles, was ordered stricken from the records. The courts evidently agree with us that 'There *is* no kodak but the Eastman kodak.'"



THE ART SIDE.

ART TERMS EXPLAINED.

KEEPING.

Keeping, though an art term, is seldom made use of in photography; it is used more in connection with color than black-and-white. But its companion word, if I may call it such, is greatly used in our art — I allude to harmony. It will suit us here if we treat both words, or terms, as having practically the same meaning. We will often see it written "that one portion of a picture is not in harmony with the other portion," and "forming one harmonious whole," and similar passages, which, to a beginner, are rather confusing. When a portion of a picture is slightly out of harmony with the other portions it is put down as being out of harmony, and when portions are greatly out of keeping incongruity prevails. To uneducated persons, or, I may say, people who have no selective capacity, everything will appear beautiful or otherwise, but they are debarred of that sense of feeling that tells us why such is the case. And if such a person attempted to make a picture of a certain scene he would be at a loss, and may add portions which would be detrimental to the whole, or take away that which was valuable. This is more especially the case when dealing with figures. It is not only the age, attire, etc., of the person that is to be taken into consideration, but the very placing of the model must be in keeping. A cultivated mind — one with a sense of knowing and discrimination — will readily "fall to." He will know immediately what is in keeping with his subject or what is out of harmony, and he will set about his task with little difficulty; and should he have any doubt about a portion of the scene he will not risk his feelings being injured, so the doubtful portion will be rejected. Photographers generally go to such extravagance over the picture; they must get in all they possibly can, so that simplicity and quietness is entirely lost.

A landscape is made up of two large bodies — one portion consisting of the land and the other the sky. Our first and chief consideration is that these two bodies work together, not against each other. If we have a landscape the sentiment of which is repose, we must have a quiet sky; should we have a landscape of a troubled nature, our sky ought to have an angry look. "But what do you mean by a quiet sky or a landscape in repose, and when is the landscape troubled? or explain an angry sky, so that my landscape and sky may be in keeping," the reader may ask. By a quiet sky is meant that the clouds should be more of the mackerel nature, or fleecy but not heavy banks — just faintly showing. By repose is meant rest or peace. There would be repose in a flock of sheep resting after a tiring journey, and yet no repose when men were hard at work in the field, perhaps at the plow. A landscape would appear troubled when the trees were bending under the force of the wind, and sunshine is wanting. It is here that it is necessary to have an angry sky — one that is heavy and the contrast great — for the peace of the landscape has been disturbed. Keeping is outraged when these two main bodies are opposed to each other. This is all that need to be written about harmony as far as the sky is concerned; but with the landscape, or lower portion of the picture, closer observation is necessary, for a composition of a landscape may consist of many portions, and it is necessary that all those portions should work in perfect accord, for if one portion, however small, should be out of harmony with the scene in general, our photograph would utterly fail as a picture. We will now proceed to take a few examples generally met with in an amateur's work.

Landscapes seem to afford the favorite attractions to amateur photographers. The fields with their figures, cottages, paths, ruts and streams; the mansions with their terraces, lawns and lakes; coast scenes, consisting of rocks and undulating shore — all come in for their share of attention.

Now, in the early or spring competitions of the year, haymaking comes in for, perhaps, more than its just proportion. We will suppose that we are about to make a picture of such a scene; what should be the requirements in such a composition to make it a success? On keeping, both as regards tones and figure, would rest in the main the responsibility. On tones, as far as the cart and its load; the horses, as far as contrast and background; and the figures to harmonize with the idea. In such a scene we will take it for granted that a man from town would be out of place, and I will also take it that the reader would already be aware of this fact. Our business now is to give each part, or object, its individual attention. We will take the figure first — he is to be in thorough agreement with the scene. The student may have a model suitable, but what does his attire consist of? At a glance his dress is also suitable. A plate is exposed, and in the finished picture there is one spot that we feel we could give anything to get rid of — one spot that destroys the whole — very small, indeed, but significant on account of its destructive power. The figure wears a hard felt hat or a conspicuous collar and tie. I should like to state here an incident in support of this that took place while I was staying in the country about two years ago, though I have not obtained my model's permission to do so. My father wished to appear in one of my pictures of a country scene. I did not like the idea of dictating to him, and suggested a portrait. He would not have this, saying he already had plenty of portraits, but wished to be taken as a woodman felling a tree. I had to submit. Suitable clothes were procured, the final touches would be made on the spot. Everything else ready, I asked him to remove his watch-chain, which he did, but absolutely declined to remove his collar, with the result that he has regretted it ever since. This small ring of glaring white — and everything that is out of harmony seems to glare — destroyed the whole. Keeping was outraged. I yielded under pressure to make the exposure, but stated beforehand what would be the result. It is these small spots which are so often neglected, except by the critic; he is always on the watch for them — his sight is keen and his words as sharp. In the hay-making scene the same applies to the color of the horses — to pick out such as will be in keeping with our process and the scene, and to study the background for relief; for what could be worse than a black horse in front of a dense mass of trees, without any relief?

We will now briefly run through a few other instances where keeping plays a conspicuous part, and I will take quite a different subject — say, a genre study. The feeling to be conveyed is one of want, and we will title the supposed picture "Poverty." We know that the slightest indication of wealth would be destructive to the whole. The figures are well supplied with attire tattered and torn, the tables and chairs are in keeping with the scene, the floor is carpetless, the walls are not only pictureless, but the paper has strips in it which echoes the worn-out clothes. The artist has been careful in all this. Yet, on closer examination of a female figure, we find that she wears shoes which were made for velvet pile rather than a hard, brick floor, or that she may have her hair made up in a style that would denote fashion.

Negative by Ed J. Steichen, Milwaukee, Wis.

SECOND PRIZE — SNOWBOUND.

The more important the work the greater the intensity of the fault. In a picture of a country mansion — and such subjects, when skillfully treated, always make charming pictures — we wish to have a picture denoting wealth and grandeur. What would form a better addition—in fact, make a picture—than a lady on a terrace or balcony, maybe conversing with some one below; or a swan on the lake in front of the house, or, better still, both; or a saddled horse waiting for its rider? All would denote greatness. Permission is readily given by these estate owners to amateur photographers when applied for in a proper manner, and very often interest is taken in your work and help afforded. One gentleman even offered to put on hunting attire, an opportunity I gladly availed myself of, and a shout of "Tallyho!" brought up the ears of his horse to perfection.

I feel I have already carried this article on "Keeping" far enough, and yet should like to give one or two more instances in which it would play a prominent part; for it is in harmony or keeping that, in my opinion, amateurs generally fail; then a few words on the treatment of the color of the prints and its mount will finish this article. A scene that would have made a beautiful picture — but the distance was too great for the lens I had with me, the focus not being long enough — was witnessed at Carisbrooke Castle. It was only about a quarter of an hour before that I exposed a plate on the castle from the very spot that would now have suited admirably for the production of a picture. Down the slope in front of the castle came a troop of lancers. The effect was grand, and what could have been in better keeping with the old castle? Never did it look so old or the lancers so smart as now. The glittering of the lances and the contrasting colors of the uniform compared beautifully though strongly with the grimy-looking prison-like walls, and I thought then more than ever of the king that was once its guest.

Another, and quite a different, subject, in which the entire success would depend upon keeping: We will see this time what can be done with a railway engine—perhaps one of the most ugly objects that was ever made. What is to be done, and how are we to make it appear beautiful? There would be no art in taking a photograph of it before its shed — quite motionless, in all its ugliness — for it is an object of power and force, and under the above circumstances it would be typical of neither. Now, take it as an artist would represent it. Firstly, we have it in motion, and his aim is to add to the force and power. An opportunity will be seized when this power is at its full — when it is leaving behind a stream of black smoke — when the driver has his anxious eyes fixed intently on the signal, and the stoker plying the coals. A thrill goes through us, and we hope that it will arrive at its destination safely. The effect would be spoiled by waiting for the sun to shine. A dull day, a storm, or heavy sky would all add to the effect and be in keeping. Such pictures are possible from most station platforms.

For a quieter example, I recently noticed a photograph of some fowls. Their terrified look would move one to sympathy. They were driven into a corner and the lens pointed at them — nothing but blank walls all around. Poor plates, to be exposed on such a worthless subject!

I have written sufficient, I hope, to impress upon the student the necessity of having thorough agreement in all his compositions; but, before leaving this art term, I would like to offer a little advice to the reader with regard to tone of print and mount. It would not be in keeping with a snow scene for the print to be of a warm nature, and this also applies to the mount. Can the student imagine a snow scene under a scorching sun? Well, that would be the feeling conveyed if such photograph was printed to a warm tone.

In a former article on "Selection" I wrote about making a picture of flowers, and gave as an instance a growing group of primroses. Now, I wish to make a picture of this group, and I also wish that the picture should represent as near as possible the tones and colors of nature — the leaves to appear green, and the flowers to have their sulphur tint. Printing in green carbon will give me the leaves, and tinted transfer paper will supply the yellow flower, other portions to be vignetted off, and, if well done, no brush could give us truer colors to nature.— *The Photographic News.*

William McEwen.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

VI.

(Copyrighted, 1898, by F. Dundas Todd.)

It is not to be supposed that a perfect representation of nature (or life) is what is to be striven for; what is wanted is the effect of life which, to one who is skilled in the rules of art, means the scientific arrangement of light and shade.

That effect consists of the proper admixture or union of those two qualities which are called Contrast and Harmony. Contrast, we have found out, is the opposition or difference of light and shade, which are in themselves, of course, "contrasts," and by Harmony is meant the unity of agreement — a picture composed principally of light and shade (only light and half light and shade and half shade) may have possibly a considerable amount of harmony but no contrast.

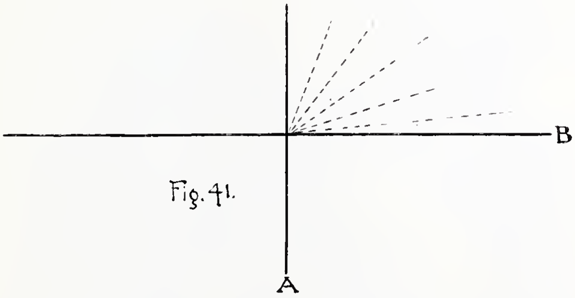


Fig. 41.

I enter at some length into the explanation of these two terms because I am fully aware of the difficulty of giving an altogether crystal-like clearness to their meaning, and so will risk being prosy so long as I succeed in my object, namely, the comparative understanding of my meaning by the most unskilled reader. When a line (A, Fig. 41) is in such a position that it will cross another given line B, then they are said to contrast one another, and the nearer to the right angle these lines happen to be the greater the contrast, and the nearer they approach to parallelism the greater the harmony. Large objects are contrasted by small objects — thick by thin and long by short.

The strongest contrast in a picture is obtained by making only one light and the remainder shade. The most powerful contrasts in light and shade ought to be kept to the principal figure or point of interest (Fig. 42), while the other parts ought to be kept subdued so that the eye may not be disturbed in the observation of the whole and attracted away by any superior brilliancy either of light or shade in any other part. There can never be two points of interest in a picture either in line or shade, as can readily be observed by anyone who will take the pains to follow out this simple example. Take a ball—if this is not handy an apple or orange will serve the purpose equally well—and place it on a table near to a window with the shades up. Observing carefully, you will see that it is impossible to say just where the light merges into shade on its rounded surface (Fig. 43). Now draw the shades and cover up the window, leaving only a small portion for the light to pass through, and you will notice that as the light opening is reduced the dividing line between light and shade becomes more and more pronounced, until at last we come to a point where we can almost trace an actual line of division (Fig. 44). Notice also the gradual deepening of the cast shadows not only from the object itself but also from all the little inequalities of its surface. By changing your point of view and moving around the object, you will learn more "points" in general lighting than could be given you in a dozen chapters of letterpress — the more diffused the light the softer the edges of the varying shades and shadows, and the smaller and more intense the light the more pronounced and definite do they become. The stronger and smaller the light used, the greater will be the contrasts, and the sharper will be the dividing line between light and dark. Remember always that when a light is sharply contrasted by a dark in immediate juxtaposition, the light will appear lighter and the dark darker when they meet (see Figs. 45 and 46). Do not attempt to make your light too "harmonious." A picture can be "harmonious" and yet be positively lacking in contrast, as, for example, when we had the lights and shades of about the same depth (Fig. 43).

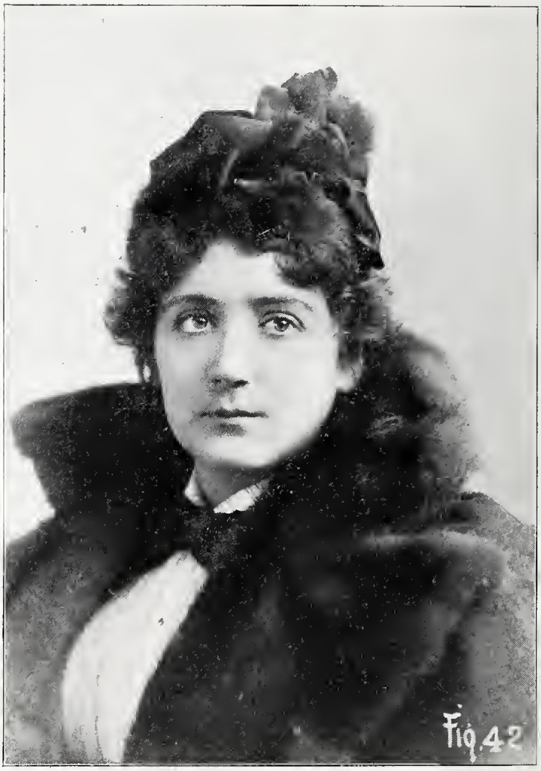


Fig. 42

A well-lighted photographic picture should (generally speaking) be divided into three shades, light, dark and middle tint, and it is the latter that should

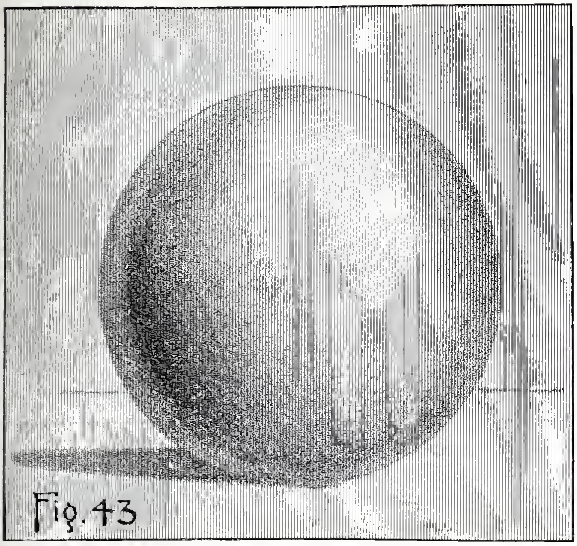


Fig. 43

predominate. The high lights and blacks should be sparingly used, for the middle tint or half light brings out and is the vehicle for detail. But do not run to the extreme and suppose that because I say this you are justified in cutting sharp and clear on every minute "crack and cranny" of the dress and accessories. What is wanted is not a great wealth of detail (unless you are engaged in microscopic work) but breadth, to which detail is fatal. Every photographer ought to consider himself as an impressionist in the sense that he conveys to the sight of others an impression of life, and this he can do by breadth of effect only. I have spoken elsewhere of the different values in a picture, and I think that it will not be out of place if I enter here into a clear exposition of just what is really meant by "value," and can best do so by illustration. When an artist has to represent the bright light of the sun, for instance, the brightest medium available is white paper or paint. Now by that white paper or paint he is required to represent not only that dazzling brilliancy, but he also uses the same medium to represent the moon, which we well know to be greatly inferior to the sun in brightness, and yet in his finished result the picture truly represents the one he intends. Wherein lay the secret of success? Simply in the "values" of the picture; that is, the correct ordering of the general mass of shade of which the picture was composed. The moonlight view would be composed principally of dark and half dark, with the lights very sparingly used, while in the sunlight scene the general tone of the picture would be light and half-light with the darks sparingly used; in other words, the values or shades would be correctly adjusted.

In every finished picture there ought to be one light which is lighter than all others, and one *dark* which is darker than all others. The reason why a pure black or a pure white should be so very sparingly used is because in nature there are really no pure blacks or whites.

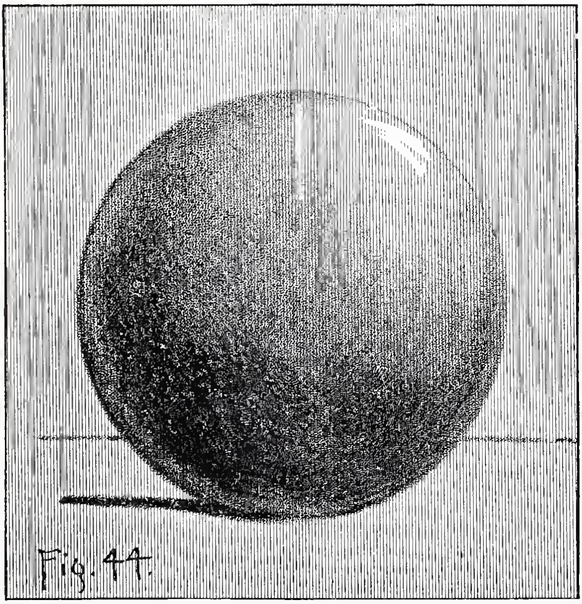


Fig. 44.

The truth of this may readily be demonstrated by holding up a small piece of black or white paper near the eye when you are observing a view. In nature every object reflects some light, however little; therefore a pure black or a pure white can be suggested only by the values of the picture.

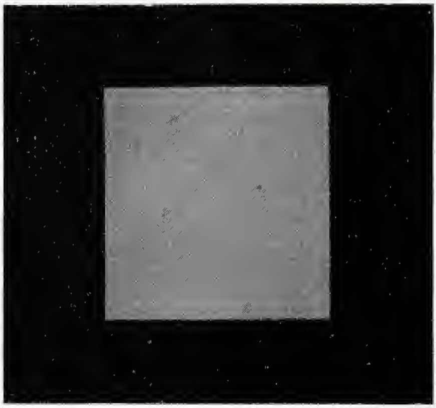


Fig. 45.

In contrasting lights and shades take care to contrast a large mass of shade by a few small and broken lights, and vice versa. R. James Wallace.

[Will our readers kindly remember that Mr. Wallace wants prints, lots of them, to illustrate his articles. So we would ask everyone to send busts of both ladies and gentlemen, three-quarter and full-length figures, groups of all kinds — in fact, anything that he may possibly find a use for. Send quick.—Ed.]

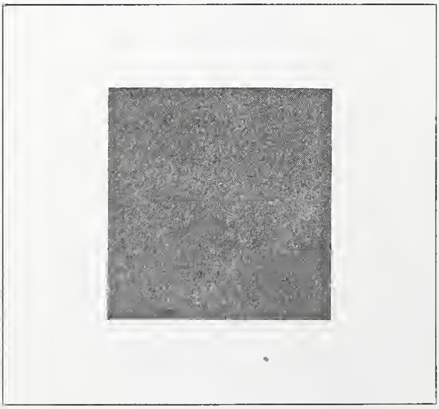


Fig. 46.

A SCREEN WITHOUT STAND.

That a screen will behave best on its own stand goes without saying; but after all, when one has to move about from place to place a stand is a serious piece of luggage, and generally the screen may be erected without it on the following plan: At each corner of the sheet stitch a brass curtain ring, also two at equal distances between each of these on each side. Take with you a lantern-plate box holding an assortment of small screw hooks and nail hooks, also take a ball of strong cord. Now quietly decide whether you can fix the screen best across an angle of the room, or on the end wall, or from a beam in the ceiling. Having decided, take your screw hooks for woodwork and your nail hooks for wallwork, and fasten two (supposing your screen is a 12-foot one), say fourteen feet apart and sixteen feet from the ground (not having wings, you are supposed to borrow the hallkeeper's ladder for this little job). Tie a piece of cord firmly to the two top corner rings, and passing them through the hooks suspend the sheet. Now tie pieces of cord of convenient length through all the other rings, stretching the strings out to the other hooks fixed in the wall or woodwork, at convenient places, on a line with the edge of the sheet. Two hooks in the floor, below the sheet, will also help to stretch the screen. Esp.

From the Nepera Chemical Company we have received one of the cleverest bits of advertising that we have seen for a long time. Of course, its purpose is to emphasize the many advantages to be gained by using Velox, and this is done in a crisp, humorous and picturesque way—both literary and pictorially—that he must be funnily constituted who does not want to read the book right through, and to examine every picture with critical eye. Just drop a postal to the company, Nepera Park, N. Y., and a copy will be sent you at once.

THE DARKROOM

TO CLEAR THE FILMS FROM OLD NEGATIVES.

It is a matter of common experience when one does not want the film to leave the glass that it often persists in doing so, by frilling along the edges or forming blisters. But when it is wanted to clear away the film so as to get a piece of quite clear glass, then the film is often obstinate. The following hints, drawn from experience, will be found useful. First, if on taking a developed negative from the fixing bath you see at once that it is no good except for use as clear glass, just give half a minute, or less, under tap and set up to dry, with film saturated with hypo, just as it is. When it has once dried in this condition, a dip in warmish water will often bring the film off in one piece at once. Secondly, for old, well-washed negatives the following plan is effective: Prepare a strong solution of washing soda, and in this put the old negative for, say ten minutes or so, i. e., until the gelatin has had time to get well soaked in the soda solution. Then dip into hot water — as hot as the hand will bear it — and rub with a nailbrush or a handful of loofah. The gelatin will melt, and the plate is quickly cleaned with the brush or loofah and a little hot soapy water. In this way a dozen old negatives can be cleaned in half an hour.

P. S.— Sometimes we find that the gelatin film sticks so tenaciously to the glass that a nailbrush has little or no effect upon it. In that case take any bit of hard wood and cut it to the shape of a wedge with a fairly sharp edge. This used like a chisel, i. e., to shove along the film, will be found a most useful little aid. Or, again, any small bit of hard wood, with square clean-cut edges, may be used. A piece about the same shape and size as a common Swedish matchbox will be found very convenient, as the various edges may be all used in turn.

A NEW DEVELOPING SALT.

Of the making of developers there is no end. The latest claimant to the photographer's notice is "Adurol," manufactured by the Chemische Fabrik auf Actien, of Berlin, better known as E. Schering.

Adurol is a whitish crystalline powder obtained by a patented process from hydroquinone, over which substance it is said to possess the following advantages:

The makers say for it: "The traces of a picture on an exposed plate appear in about a third of the time required when using hydroquinone. The half-tones attain much greater power. The details in the shadows come out in more variety. The time required to complete development is much shorter. There is no stain possible. The solution may be used over and over again. Also it has been ascertained that two parts by weight of adurol, with a like amount of an alkaline carbonate and sulphite, develops in the same time a more powerful negative than three parts by weight of hydroquinone. It will be seen from the above points that adurol combines the density and cleanliness of hydroquinone while producing as much detail as any other developer, and although it may be called a rapid developer it is easily controllable."

[The above is from an English contemporary, but we fancy that adurol should be procurable from the American agents, Schering & Gatz, Maiden Lane, New York.— Ed.]

A GOOD SUGGESTION.

Dear Sir,— Although the new hand cameras, with their films, rollholders, etc., make the following suggestion rather late, I have never seen anyone use the idea which came to me when I found the darkroom such a beautiful place to drop the slides of plateholders, and in fact most anything that you don't want there, into the wet. Take your paper slides (hard rubber as a matter of course don't need it) and give them a good coat of thin shellac varnish; when thoroughly dry, rub off with fine sandpaper and apply another coat, which should also be smoothed up afterward, but don't rub all off. I also find that a little oil in the grooves they slide in makes them work easier. It keeps the paper from absorbing moisture, and if dropped into your sink it does no harm, simply wiping them off.

If your slides stick, try it.

Yours, James C. Wood.
635 Walnut street, Philadelphia.

USE FOR BROKEN EBONITE DISH.

Ebonite when quite cold is decidedly brittle, so that should an ebonite tray fall on one corner the chances are it will break. It may be mended with shellac cement, but the result is seldom quite satisfactory. Do not, however, throw away any pieces, as these come in usefully for making various little conveniences, e. g., plate lifters, spoons, or scoops for dry chemicals. Place the pieces in water as warm as the hand will bear it, and gradually add still hotter water (i. e., to about 150° Fahr.) until the ebonite becomes quite soft and pliable, when it may be molded to any shape desired. It is now hardened or set by putting under the cold water tap for a few minutes. Edges may be rubbed down with a file and finished with sandpaper. Should the glass pan of your weighing scales get broken, a fair substitute can be made out of a piece of ebonite (vulcanite, xylonite) in the way just mentioned.

DEVELOPERS—SOME POINTS OF DIFFERENCE.

Rodinal and Metol.—The image comes out quickly, but is a long time in gaining density.

Glycin and Eikonogen.—The image takes longer to appear, but grows quicker.

Ortol and Pyro.— The image appears in about a minute, and goes on growing steadily.

Hydroquinone.—The image is longer in appearing, but when once it starts the density is put on quickly.

Metol and Hydroquinone combined act well together, and give a good steadily working developer.

ANTI-HALATION BACKINGS.

In a communication to the French Photographic Society, M. Goddé touches on the various backings in use, and by implication he condemns most of them as being messy and calculated to soil the fingers at a time when soiling is specially undesirable, or else involving a period of delay, by reason of the time required for the coating to dry. Both these inconveniences are avoided by the use of a readily fusible wax-like composition, easy to brush on, solidifying almost instantly, and capable of being readily scaled off when cold. The exact composition of such a mixture must vary a little, according to the melting points of the ingredients, but the author gives the following as being ordinarily satisfactory:

Yellow beeswax	25 parts
Paraffin wax	35 parts
Vaseline	35 parts
Earthy pigment	50 parts

These materials are melted in a glue pot, when the backs are coated by means of a soft brush. After exposure the coating is scaled off by means of a small chisel made of ebonite.

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

THE PRINTING ROOM

BLUE PRINTS.

Some photographs look exceedingly well when printed in blue. The following may help some to make a trial of the process: Select a smooth paper with hard surface; heavy, unruled writing paper may be used. Make up the following solutions:

A.

Red prussiate of potash...	240 grains
Water..................	4 ounces

A.

Citrate of iron and ammonia	360 grains
Water..................	4 ounces

In practice use equal parts. Before coating the paper it should be carefully damped and placed between blotters until limp. Print till shadows are bronzed. After printing, place in a tray of water for a few seconds — for just sufficient time to wet the surface and make the paper limp — then transfer to a solution of water and ammonia, one drop of ammonia to the ounce of water. In this bath the print will bleach and turn purplish. It is preferable to rather overprint. When the print is sufficiently reduced by the action of the ammonia bath, place it in the following solution:

Water..................	8 ounces
Sulphate of iron..........	½ ounce

The color will at once change from purple to blue. The prints should be kept in this bath about two minutes. To clear the whites immerse in a dilute ammonia bath, and then wash in clean water. Seascapes and river scenes look remarkably well when printed by this process.

E. E. F.

The demand for Lithium paper has increased so much within the past few months that it has become necesary to run the factory overtime. This is hardly surprising when it is remembered that Lithium is the oldest gelatin paper in the market and has stood for the highest standard of excellence in printing-out papers. There is one feature of Lithium paper that we have always considered of great importance, and that is the unusual brilliancy of the prints. This we presume is in a large measure due to the emulsion used being specially rich in silver.

INTENSIFICATION OF PLATINOTYPES.

Platinotype workers who do not time their exposures often suffer in having prints slightly too light. These may be intensified with platinum by the following method — that of Hubl:

Solution 1.

Sodium formate...........	48 grains
Water..................	1 ounce

Solution 2.

Platinum perchloride......	10 grains
Water..................	1 ounce

For use take 15 minims of each solution to 1 ounce of water, and immerse the prints (having previously well washed

Negative by H. W. Minns, Akron, Ohio.

them). Density will gradually be obtained, and as soon as this is sufficient they should be well washed and dried.

W.

SOME PRACTICAL POINTS.

Shading Prints.—A piece of ground glass proves of great use when making prints from negatives possessing too marked contrasts to give harmonious results when printed in the usual manner. If a print be made on P. O. P. and fixed, we can form a good idea what further alteration it needs to make it what is desirable. If ground glass be laid on the print, ground side upward, it will be found a simple matter to rub over those portions covering the fully printed parts underneath either powdered stumping chalk or blacklead. When this is done, another print may be made in the ordinary way, and when all but the densest parts of the negative has fully printed, then place over the frame the shaded ground glass and allow printing to continue (of course in diffused light). The result will be found a marked improvement. The small trouble necessary is more than repaid when print after print is taken, and the results turn out of the same good quality. Two or three small tin-tacks should be fixed on the outside of frame so that the ground glass may be placed each time used in correct register. The negative being jammed up into the same corner of the frame as well, insures each print receiving the further exposure in the correct parts only.

Cut-Out Mounts.—When framing prints up to 10 by 8 or 12 by 10 size, it is useful to have by us several masks to try the effect of different shades or colors with which to surround the finished print, all that is necessary being to take several pieces of brown paper of different shades and cut out an opening, say, 11 by 9 from the center for 12 by 10 prints, or 9 by 7 for 10 by 8 prints, and so downward according to the sized plates used required; then a few sheets of stout drawing paper may be washed over with cold and warm grays in different strengths. Ordinary water-color prints will provide any variety of tint, and a dozen masks may quickly be made without the least difficulty by anyone, and prove most useful to have at hand when the question of a suitable colored mount comes to be considered to finish off exhibition work, or, indeed, any intended for framing.

Washing Large Prints.—Considerable saving in time is effected if, instead of simply transferring the print or prints direct from the hypo bath to the washing dish, they are taken and simply laid on a sheet of glass and a good flood of water allowed to play over them from the tap, turning each side in turn, and either running a roller squeegee pretty firmly over them or pressing the palm of the hand over in all directions. This rids the paper of a considerable quantity of the hypo, and seven or eight doses of this treatment, with soakings in clean water between each squeegeeing, will be found ample, even with such stout paper as rough Whatman's, and becomes a matter of some little importance if cramped for room or pushed for time to finish off a large print or two.

Platinotype Prints.—Once this fascinating process is taken up it will not be long before some negatives are found which, being somewhat strong in contrast, require the printing to be carried on for such a length of time that the shadows are perfectly bronzed, and when development takes place they refuse to come up in the deep shadows anything but a dull brownish color, being much as if they had rusted like old scrap iron. It may so happen that the general appearance of the print as a whole does not materially suffer when looked at straight in front, but on viewing it from one side the defect is generally strongly evident. The remedy is very simple, and both easily and quickly applied—nothing more, indeed, than brushing over the parts solarized, a wash of wax-water magilp, a bottle of which may be obtained from most artists' dealers. It is used in water-color painting to add force to deep shadows, and the improvement it brings about on a faulty platinotype print is very marked; the dingy rusty color will instantly depart, and the shadows lose their bronzed appearance.

Sunken-in or Degraded Prints. — Very often one finds for some reason prints done by the above process when dried look dull and insipid. Sometimes this is caused by using the acid bath too strong, which seems to destroy the sizing used on the paper, with the not desirable result of the print showing signs of a most unbecoming bashfulness and trying to sink itself into the body of the paper support. When this is so, a weak solution of the wax magilp will quickly coax the print back into the full light of day. It is a good plan to wash it on and let it soak well in, then dab it off with a clean cloth or blot it off with clean hard blotting paper. This prevents any shiny appearance when dry.—*The Amateur Photographer.* W. Thomas.

MASKING PHOTOGRAPHS.

Those photographers who have done any work in carbon — and I am afraid

Negative by Hy. D. Allison, Dublin, N. H.

THIRD PRIZE.

there are a great many who have not tried this simple process — will remember that you have to mask the edges of your negative in order to get what is termed a "safe edge." Have you ever tried this when working with ordinary P.O.P.? It improves them wonderfully.

Notice on the negative the parts which you think should be trimmed off in the finished print, and over these stick strips of gummed paper all round the edge. Now, instead of trimming your print down, you will have a photograph of the size you want, with a white edge all round, which gives it a very pretty appearance.

Of course, the above is simply a modification of the old mask and die process which was so much in vogue among professionals a short time ago.

Alex.

THE CHEMICAL VIGNETTING OF PRINTS.

It is difficult to imagine any process less under the intelligent control of the operator than the ordinary method of vignetting by shading the negative, and in a communication to the *Société Photographique du Nord* M. Gosselin put forth a strong plea for vignetting the print by some after-treatment, so as to allow of the effect being watched as the margin is painted out. As might be expected, control in chemical vignetting is most complete in the case of developed bromide prints, and it becomes impracticable in the case of prints considerably toned with platinum. The procedure is to moisten the print and lay it on a flat surface of porcelain or glass, the level bottom of a dish much larger than the sheet being very suitable. The edges of the print, where one wishes to remove the impression, are now painted over with a solution of iodine in water, the iodine being rendered more soluble by the addition of iodide of potassium; water 100 parts, iodide of potassium 10 parts, and iodine 2 parts being a suitable mixture. This acts more slowly than an alcoholic solution of iodine, and gives correspondingly more control. The iodine solution can be applied very freely to the extreme edges if complete obliteration is intended, and water can be applied with a second brush round the margin of the area where full vigor is desired, the use of mops or dabbers giving a very complete control. Of course, the print can be rinsed at any stage and examined. Should the paper be sized with any starchy substance, a blue tint will appear where the iodine acts, but the extinction of the image can be readily traced in spite of this. A final soaking in weak hyposulphite serves to remove the blue color, after which the print must, of course, be washed. One advantage of the aqueous iodine solution over alcoholic iodine and preparations containing cyanide is the fact that any paper may be treated without fear of disintegrating the surface. Slight toning with gold does not interfere much with the chemical vignetting, but makes it somewhat slow.

A GOOD MOUNTANT.

Manhattan, Kan., Feb. 25, 1899.

Photo-Beacon Company, Chicago, Ill.:

Gentlemen,—In your February number, under "Literary Competitions" No. 5 — "How to make a good mountant paste." Now I do not wish to enter in competition, but send the following formula for paste:

Corn starch	1 dram
Granulated sugar	3 drams
Aqua, distilled	8 ounces

Now, for those who have no scales or distilled water the following measures may be used:

Corn starch	1 teaspoonful
Granulated sugar	1 teaspoonful
Pure rain water	½ pint

Mix and boil gently for ten minutes, or until it thickens to the consistency you wish.

This paste is used a great deal in "Chromo Photography" and can be used in making opalines.

I hope some of my amateur photography friends will use the above.

Amateur.

THE SCIENTIFIC BY-PATHS OF PHOTOGRAPHY

CONDUCTED BY
R. JAMES WALLACE.

AN EASILY CONSTRUCTED OPTICAL LANTERN, ADAPTED TO A LEAN POCKETBOOK.

The lantern season is now on, and many amateurs, no doubt, would be making slides if it were not for the excessive cost of a good lantern. To aid these I describe a lantern which I built last spring, that is in every way satisfactory, and exclusive of the condensers and projecting lens, did not cost me to exceed $2.50. In fact, the condensers and projecting lens will be the largest item.

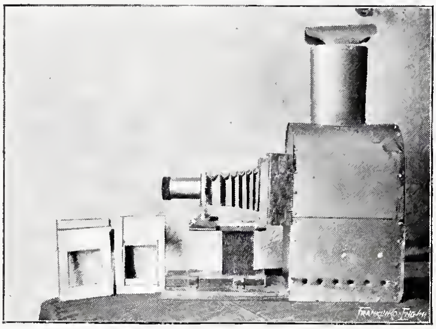
Needed, then, are a pair of 4½-inch plano-convex condensers of 7 inches focus, and a rapid rectilinear or portrait lens of about 1½ to 2 inches diameter, and 6 inches focus. Also an old camera either 4 by 5 or 3¼ by 4¼ inches, to use for the bellows front. I happened to have an old model Anthony 3¼ by 4¼ inch camera and Darlot lens which came in very handy. In fact, it was these two articles which first suggested the building of the lantern.

Now for the lantern. Go to the mill and get one piece (A) of oak lumber, well seasoned, ¾ inch thick, 20 inches long and 6 inches wide, also two pieces (B and C) ¾ by 15 by 6 inches, and have them rounded off at the two ends as shown, also have a 4⅝-inch hole put in C as shown on the diagram. This is for the condenser mount. Have B cut out as shown for the door to get at light.

All of this work can be done at the mill in a few minutes. The lumber, dressing up, and all work cost 50 cents here in Omaha. Get a piece of ¾-inch oak, large enough to make two pieces like F, 6 by 1¾ by ¾ inches; one like G, 9 by 3 by ¾ inches; one like H, 4½ by 3 by ¾ inches; one like I, 4½ by 4 by ¾ inches, and one like E, 5 by 6 by ¾ inches, with a hole not less than 4 inches, as shown at *e'*. D is made of ¼-inch sycamore, 6¾ by 6 by ¼ inches, and the opening 4½ inches square.

Now take board A and screw C to it at *a'*, 1½-inch screws, and be sure that board C is perfectly at right angles with A. Then take board B and screw it fast at *b*. Now, get sufficient russia iron to cover the space between A and B; it will require a piece about 9½ by 36 inches. This should be screwed to A, B and C, with ½-inch round head screws, at intervals of 1 inch. It is best to start at the bottom and work up over the top and down the other side. Now take this to a tinsmith and get him to put a collar in the top, 4½ inches long by 3 inches wide, and to make a chimney to fit and about 6 or 8 inches high, with a cowl on top. At the same time have him make a collar 2 inches wide to fit inside of the 4⅝-inch hole in board C and punch four or six ½-inch holes in sides of lantern for ventilation. Also a strip of tin to act as a separator between the two condensers; the edges of this must be turned up slightly.

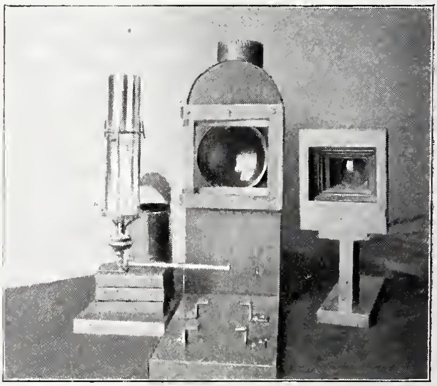
Now take this collar and solder three strips of soft tin, about ½ by 1 inch, on each side, at equidistant points around the inner surfaces. These are afterward to be bent to retain the condensers, and will allow them to expand without breaking. Put the collar in place with one edge flush with the inner side of board C. Take the two pieces F (6 by 1¾ by ¾ inches) and screw them fast to C, as shown at *c′* and *d;* two 1½-inch screws are right if counterbored. Cut a saw kerf in these two pieces F as shown at *f*, parallel with the condenser front, and insert in them two pieces of sheet brass ½-inch wide and 6 inches long, so as to have about ¼ inch above the surface of the wood. These are to act as guides for the slideholders. Make D as shown of ¼-inch sycamore, and screw it to the pieces F at *c* and *d*—this forms the front and should have two bowed brass springs (M) made of the ½ by 1/10 by 7 inch sheet brass and bowed so as to push the slideholder solidly against the guides so that all slides shall be the same distance from the condensers.



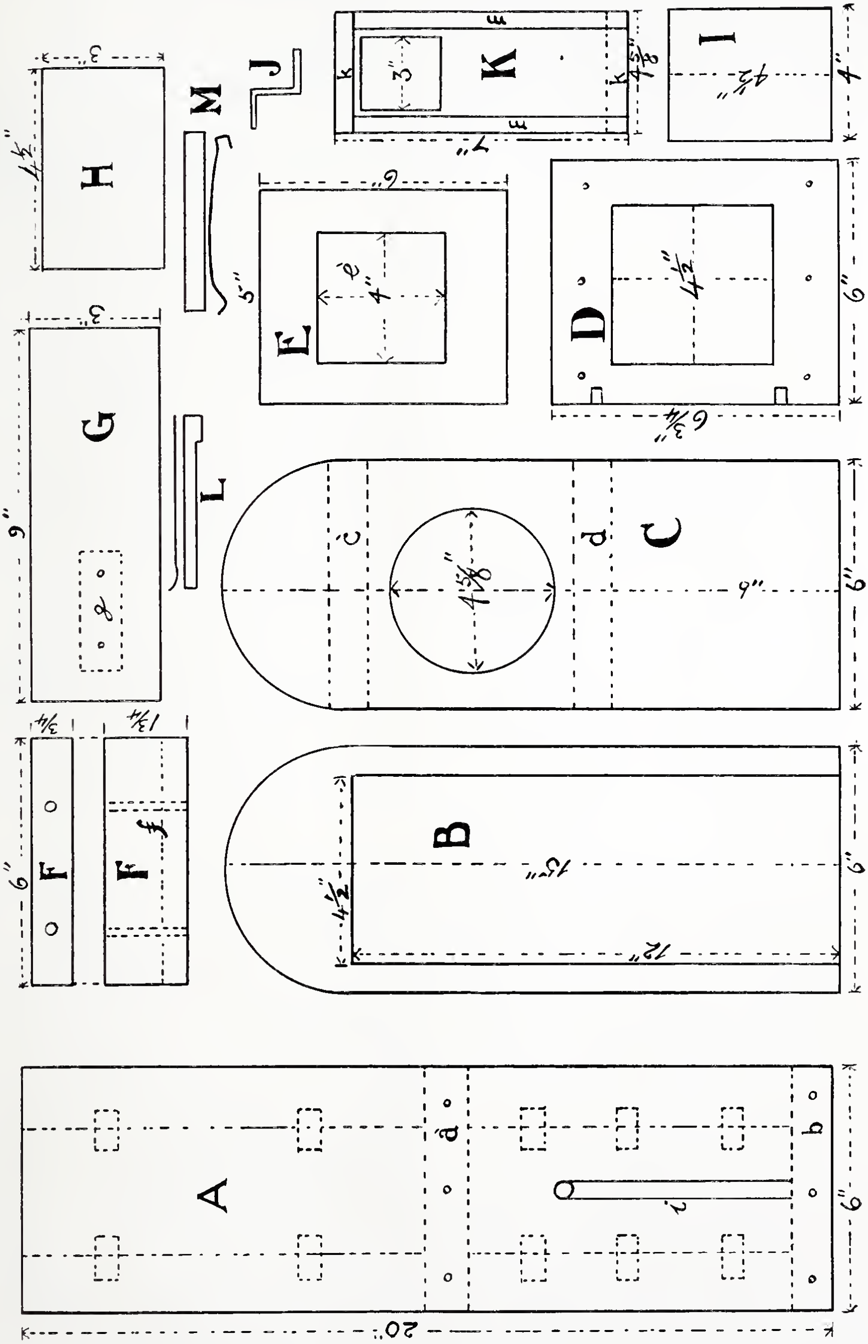
Now make board G, 9 by 3 by ¾ inches, also H, 4½ by 3 by ¾ inches, and screw it fast to G, as shown at *g*, with two 1½-inch screws, and it (H) must be at right angles to G. Make four brass angles like J, and screw them to A so that G will slide between them exactly central with the condensers.

Now mount your camera up on the top of H so that the center of your projecting lens will be exactly opposite the center of your condensers. The method will have to be adapted to your camera which you propose to use. Mine was an old Anthony Novelette, back focus, pocket view pattern (might be obtained very cheaply secondhand). I removed the ground glass and entire back frame, unscrewed the front from the bed, and fastened it to the slide of the bed; then made block E, 5 by 6 by ¾ inches, screwed it fast to the original front of the bed and then screwed 'the bellows frame to E. The bed was then attached to H by a screw through the tripod screw hole. The focus can be adjusted by turning the focusing screw back and forth and thus drawing out the bellows. G is slid within in the brass guides and shoved back till E is up flush with D and fastened with two small hooks. It can be drawn out when desiring to use long-focus lenses. In place of the camera, if it cannot be obtained, the tinner could make two tubes to slide one within the other, after the pattern of English lanterns. They should be at least 4 or 4½ inches in diameter and allow of 6 or 8 inches sliding motion.

The separating ring is put in the collar, the front condensing lens placed in and the tin strips bent to retain it, the rear lens placed in position and its tin strips bent so as to act as springs and retainers. This gets very hot and should be allowed room to expand, otherwise it may break. The board I, 4½ by 4 by ¾ inches, is arranged to slide between guides at *i* (see A) and the illuminant should be attached to it.



The light, condensers and lens must


A
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20"
12"
15"
6"
9"
4½"
4⅝"
4"
3"
5"
7"
6¾"
¾"
1¾"

be concentric, so that a line starting from the center of light will pass through the center of condensers and on out through the center of projecting lens.

This lantern may seem abnormally tall, but it was originally designed for use with an argand lamp, but is now used with the Welsbach incandescent gas lamp and gives good satisfaction.

If intended for acetylene gas or calcium light its height might be cut down 6 inches. The slide holders (K) are simple, being made of sycamore, 7 by 4⅝ by ¼ inches, with an opening 3 inches square, as shown. Two strips of sycamore, 4⅝ by ¾ by ¼ inches, *k k*, are glued across each end on opposite sides to prevent warping and act as a stop for the slide; two strips similar, but 6¼ by ⅝ by ¼ inches, *m m*, are glued on the sides as shown. Two springs are attached to retain the slide. These carriers are simple and efficient, and it is well to have two of them. Four brass springs like L are required to hold slides.

I inclose photographs of the completed lantern and parts. While not so handsome and finely finished as the manufactured article, it is efficient and fills the bill as well as an article costing $30 to $40. Its whole cost, including condensers, was only about $6. If the amateur is handy with carpenters' and tinners' tools, the cost will be still less. Slidemaking is very interesting and instructive; the amateur will derive a great deal of pleasure and satisfaction in showing the picture taken during his summer vacation to his friends during the long winter evenings.

If the Welsbach light is used, I recommend the latest pattern, No. 34, with gas regulator attached, as giving the best satisfaction.

FRED M. VANDERVOORT,
Omaha, Nebraska.

[A very good substitute for the condenser in the above excellent article is to make use of a Florence flask of about 6 inches diameter, filled with distilled water — the light is perfectly pure and and clear although the focus is somewhat short; at any rate it acts as a very good substitute when one has a still "leaner" pocketbook. Of course, the space taken up is greater than in the case of the regular glass. — R. J. WALLACE.]

A VALUABLE CATALOGUE.

The average user of a lens, and especially the beginner in photography, is usually at a loss to know what tests to apply to a lens in order to determine its value for the purposes for which he wants it, or whether it contains defects due to poor workmanship, flaws in the glass, etc. The late catalogue of the Bausch & Lomb Optical Company, of Rochester, New York, contains a series of ten half-tone engravings showing the appearance of these defects when they exist in a lens, and, in addition, a descriptive article telling how lenses are made in their manufactory. Everyone interested in photography should get a copy of this catalogue, which contains three elegant photogravures, before the edition is exhausted.

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Yearly subscription, $1.00, in advance; single copies, 10 cents.

All remittances should be sent by post office money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

Secretaries of photographic societies are requested to favor with brief reports of their meetings.

Subscribers advertising secondhand apparatus for sale or exchange, special articles wanted, help or situations wanted, *one insertion free.*

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
TRIBUNE BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 79 Nassau Street, New York.

VIVE INTERNATIONAL STEREOSCOPIC SOCIETY

Associate Editor,
E. G. PATTERSON.

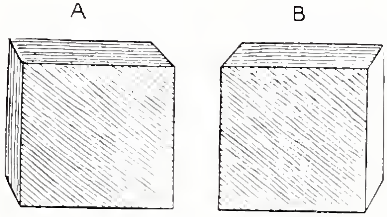
THE PRINCIPLES OF STEREOGRAPHY.

Human beings, as is almost the whole of the animal kingdom, are possessed of binocular vision. That is, we are provided with two eyes, set some distance apart, which enable us to judge the form and estimate the distance of objects.

It is only by viewing an object with two eyes that we are enabled to know it as a solid object, which stands out in relief from other objects behind it. It is only the unconscious convergence of our eyes that indicates to the mind the approximate distance the object viewed is from us. If one eye be closed, relief or solidity vanishes, and distance can only be judged by the relative size of the object, and then only if its actual size be familiar to us.

Using both eyes we see two images of the object viewed, one being reproduced on each retina. The right eye sees more of the right side of the object than does the left, and vice versa ; the two images combine in the mind, and thus we see a little of each side — look round the corner, as it were — and in this manner get the suggestion of relief. If a square box be placed in front, and directly between the eyes, and the right eye closed, we shall see the end and the left side of the box in perspective, but nothing whatever of the right side of the box. Now, if the left eye be closed and the right eye opened, we see the right side of the box in addition to the end, but the left side is invisible.

If both eyes are opened together, we see the right side with the right eye, and the left side with the left eye at one and the same time. These two impressions combine in the mind, and thus we see three sides of the box at once, and know it is not a plane flat surface, but stands out in relief and is a solid form. Let A represent the box as seen by the left eye, and B the box seen by the right eye. If these diagrams be looked at intently for a few moments, the two will appear to combine and assume a solid form, which is absent from the two viewed separately.



If we can photograph an object from two slightly different points of view, but otherwise identical, and afterward combine the two in the mind to again form one picture, we shall at once obtain the effect of relief and solidity, as if we were seeing the real object with both eyes. This is called "stereoscopy," or "stereoscopic effect."

It is to be obtained, in photography, by two methods, both of which, however, are, in effect, the same. The older and more roundabout method is to photograph the object with one lens, then move the camera and lens a few inches to one side, and make another exposure upon another plate. The objections to this method are the great difficulty in giving precisely the same exposure to each plate (which is, of course, necessary to produce exactly similar prints), and also the impossibility of taking instantaneous views of moving objects, for obvious reasons.

The more modern and better method is to employ a double camera and twin lenses, so that the two exposures may be made together, and thus insure identical results. To do this, a camera is made twice the size of the single plate, the dark slide taking a plate the same width, but twice as long as the single picture. Two lenses of suitable focus (4 to 5 inches) are fixed on the camera front 2½ to 3¼ inches apart, and a division is fixed down the middle of the camera from lens board to plate to separate the two images and prevent fog from overlapping.

If possible, the lenses should be made adjustable to separate from 2½ to 3¼ inches from center to center as desired. For portraits and near objects 2½ inches may be sufficient to secure the necessary relief, while even 3¼ inches will not be too much for distant landscape subjects. For exposing, a shutter, working upon both lenses, should be used, or the ordinary caps united by a rod between them, so that both can be removed and replaced together.

In stereoscopic photography it is absolutely essential that the lenses shall be fixed upon the same plane on the camera and perfectly horizontal, and that the camera itself shall be always maintained in a perfectly horizontal position.

Prints are made from the double negatives so produced in the usual manner, smooth or glazed-surface printing paper being best for stereoscopic work. The greatest care is necessary in trimming and mounting, and it is at this point where the true stereoscopic effect is destroyed. It has been explained that it is necessary to see the picture taken with the right lens with the right eye, and the left picture with the left eye; but in printing, these positions have, of course, been reversed, the view taken with the right-hand lens being on the left, and that taken with the left lens is now on the right-hand side of the print. They may, therefore, be cut in two, and mounted so that the view taken with the right lens is at the right-hand side of the card, and vice versa. In trimming, the greatest care must be observed that the horizontal edges of the prints are cut exactly through the same points of the view. The exact height of the pictures is immaterial, but they must be mounted with their centers (or the same object in each print) from 2¾ to 3 inches apart. They must be trimmed so that there is about ⅛ inch more picture seen upon the right-hand side of the right print than on the right-hand side of the left print, and the same amount on the left-hand side of the left print than can be seen upon the right print.—*The Amateur Photographer.* C. C. Vevers.

A WRINKLE.

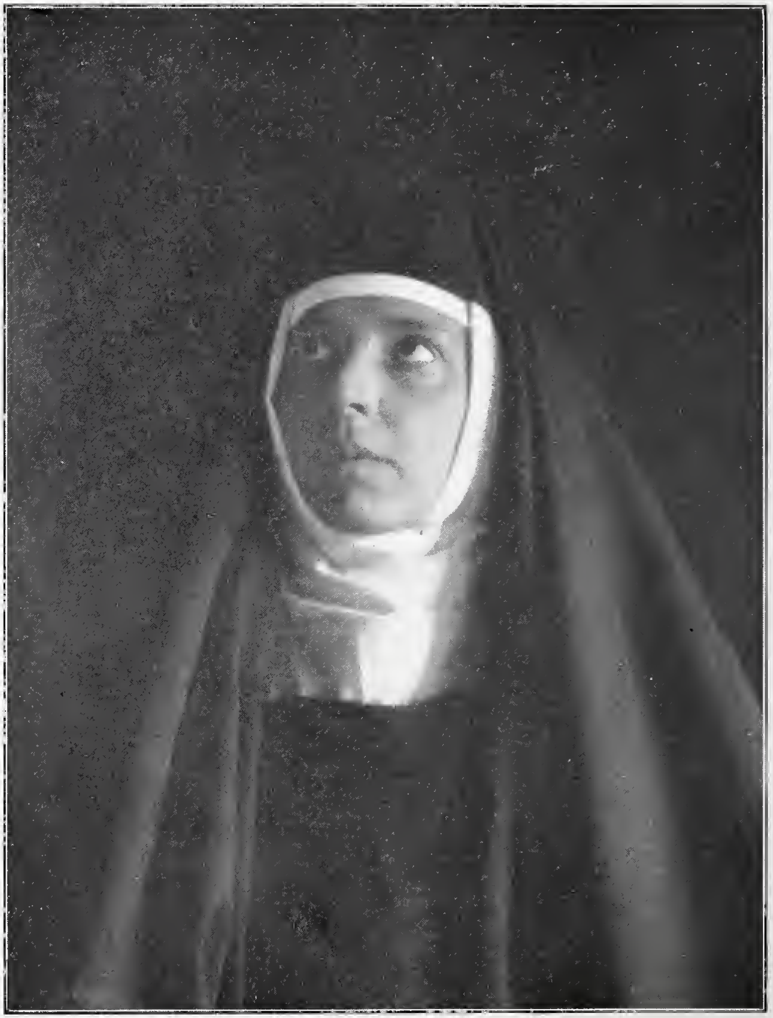
To those who require a perfectly smooth screen behind the object being photographed, suspend screen in the usual manner, and cause it to be shaken very violently, as if, as I am sometimes told, a heavy gale is blowing. I station a man each side of a screen, which they grasp and then shake. I find this method very useful when photographing machinery, which necessitates the use of a very large sheet, and, although it is often very much creased and smeared with greasy finger-marks — such as one is liable to get in an engineer's shop — the result is a perfectly clean, smooth background. A. T. H.

If you are troubled with red spots in Aristo Platino, try one ounce of a saturated solution of sal soda to the gallon of water in your first washing. Do not allow the prints to pack in this, but keep them constantly in motion. Then wash through clear water, and pack them down for flattening in the third water. Prints should be left in the soda solution five or six minutes.

It is important in cold weather to temper the washing, toning and fixing baths to about seventy degrees, in order to get the best results.

When you want a book on any special photographic subject apply to us, for we carry in stock every book published in England on photography. One hundred and fifty different titles.

THE PHOTO-BEACON CO., Chicago.



Negative by F. L. Smith, A. M., Philadelphia, Pa.

FIRST PRIZE.

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. MAY, 1899. No. 5.

OUR EIGHTH PICTURE COMPETITION.

Close on two hundred prints were entered to take part in the "At Home" portraiture competition, and it must frankly be said, so far, that the amateur does not specially shine in this branch of photography. After having sold almost 2,500 copies of "Amateur Portraiture at Home," we felt sure that most of the prints would indicate some knowledge of the elementary principles of portraiture, but we were sadly disappointed, for it must frankly be said that less than a dozen seemed to have given the subject any study.

We take this opportunity of again saying to our readers that fine pictures are not the result of chance, but are brought about by an intelligent working for a definite end. If a man does not know what he wants he never gets it, and the photographer who shoots on the hit or miss plan is bound to miss every time.

The prizes were awarded by the judges as follows:

First—Fred L. Smith, Penn Charter School, Philadelphia, Pennsylvania.

Second—E. K. Dyson, 15 South Kedzie avenue, Chicago.

Third—Miss Mary Lewis, 423 Sixth street, Springfield, Illinois.

This is the second time that Mr. Smith has secured first rank in our competitions and the honor is well deserved, for he knows apparently what he wants every time, and judging by the amount of photographic literature he buys, is a very devoted student.

Spring has been very backward, but is seemingly coming now on swift wings, and we trust our readers were alert enough to take advantage of the long delay to secure negatives suitable for competition No. 10, which closes on the 30th of this month.

FUTURE COMPETITIONS.

Competition No. 10 — Branch of a tree without leaves; closes May 31.

Competition No. 11— Interior pictures; closes June 30.

Competition No. 12 — Branch of a tree with leaves; closes July 31.

Competition No. 13— Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15— Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

Now, will our readers tuck in during 1899 and keep us busy? We have tried to introduce as much variety into our list as possible, so that everybody can find a place to come in somewhere, and we expect shoals of pictures to arrive every month.

To enter for any competition, all that is necessary is to send a print, properly mounted; and on the mount, either back or front, the sender must write his name and address, and on the package write "competition." The judging is done by three gentlemen, two of whom are artists and one an amateur photographer. One of the artists is himself a first-rate photographer. The editor never sees a print until the awards are made, so he never loses sleep when anyone kicks about the decisions.

The prizes are:

First — A complete set of our own publications.

Second — H. P. Robinson's "Pictorial Effect in Photography."

Third — "Amateur Portraiture at Home."

In lieu of the above prizes the winners may select an amount of equal value from our catalogue.

DEATH OF MRS. GRACE MARIA MORA.

The many friends of Mr. Samuel Mora, of the Eastman Kodak Company, will regret to learn that death has deprived him of his wife. The sad event occurred at the family residence, in Rochester, on April 1, and was followed by the funeral services on the 4th, after which the interment took place at Riverside cemetery, the funeral being attended by the personal friends of the family, and very largely by Mr. Mora's colleagues in the office and works of the Eastman Kodak Company.

Mr. Mora has three young children who are rendered motherless by the sad event.

PHOTOGRAMS OF '98.

Now that the pictorial season is again with us, all who are interested in picture-making might do worse than invest 50 cents in a copy of the above, for it contains the best pictures of the year by artistic photographers, and we can assure our readers they one and all provide much food for thought. They show how beautiful pictures are produced from very ordinary materials, and hundreds of suggestions abound throughout the book for even the unthinking. We have still a few copies left, therefore apply quickly if you want one.

PART II OF THE REFERENCE BOOK.

After many delays, due to pressure of rapidly increasing business, which for a year has been going up by leaps and bounds, we are at last able to announce that Part II of the Reference Book is all in type, all the plates made, and by the time this issue is in our readers' hands will be nearly all printed. It covers the field of darkroom work and deals with the subject very thoroughly. The contents may be gathered from the headings of the various chapters: Chemicals, The Darkroom and its Fittings, Developers, Development, Fixing and Washing Plates, Developing Films, Reduction, Intensification, Minor Points in the Improvement of Negatives.

The book contains fully one hundred pages of reading matter with a complete index. Price 50 cents.

LITERARY COMPETITION No. I.

Possibly the most difficult task set us in many years has been to decide the prize winners of our first literary competition. The papers were read and reread until they were gradually sifted down, special attention being given to their practical value. We felt that certain points were essential in the construction of a darkroom, and where any of the special points were omitted the paper was put aside.

We believe that in addition to being light-tight a darkroom should have provision made for a necessary supply of water on tap, be provided with good safe light, and be properly ventilated. The last point was where most of our contributors broke down, for nearly everyone failed to show any provision for what we consider to be a most important item, and many otherwise very excellent papers were reluctantly put aside for this reason.

Many of the writers made excellent plans for placing the light on the outside, and this we consider to be its proper place. One of the winning articles shows how this can be done, and we would advise such of our readers as contemplate building a darkroom in the basement to postpone the work for a little until they have read all the papers, as each one has some point specially good, and a combination of the best of all of them should result in the building of an almost perfect darkroom.

Negative by R. W. Harrison, Selma, Ala.

BATH TIME.

We found it advisable to allot two extra prizes, the fourth going to a design that is unique in its utilizing a corner, the other to a method of constructing a portable darkroom that seemed to us to be specially good.

All five papers will be published in due course, and afterward we will pick out the best points of the remaining papers and print them.

PRIZE AWARDS.

1. Frank E. White, Toulon, Illinois.
2. James Slack, New Knoxville, Ohio.
3. C. J. Korndorfer, 16 Broad street, New York city.

Extra. W. J. Day, Box BB, Bradford, Pennsylvania.

Extra. Frank Frost, Roswell, New Hampshire.

Papers for competition No. 2 are coming to hand very plentifully, and we anticipate an excellent set of articles.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 3.—How to prepare a stock developing solution. No detail is too trivial for notice. Closes May 15.

No. 4.—How to get glossy prints by squeegeeing on glass or ferrotype, and how to mount the prints to retain the gloss. Closes June 15.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

No. 7.—Copying photographs.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

HOW TO MAKE A DARKROOM IN THE BASEMENT.

FIRST PRIZE ARTICLE.

The majority of us live in towns and country houses having no waterworks, gas or electric lighting connections. To us a good, convenient and comfortable darkroom is a hard thing to get. To show how to make such a room with very little expense is the aim of this article.

Select a place in your cellar where there is a window, or make a window where your darkroom is to be, for, next to the absence of white light, ventilation is the most important point.

If possible, make your room 6 by 8 feet. Smaller will do, but the extra space gained by making it this size is not only useful, but comfortable and healthful as well.

For the wall, use any old boards you may have. If you buy new lumber, get ⅜ inch "ceiling" or "rough siding," for this is strong enough and cheaper. Make a frame of 2 by 2 stuff (rip a 2 by 4 to get it) on which to nail the bottom of the walls. A frame of 1 by 2 stuff (ripped out of an inch board) is good enough to nail the top of the walls on. If you use lumber less than an inch thick, set in 2 by 2 corner posts. Nail the boards on vertically, leaving a door 2½ feet wide at one corner. Paper the inside with dark wall paper—the nearer black the better.

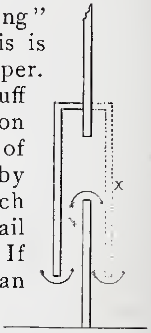


Fig 1

For ventilation, cut a hole 6 by 12 inches through the front wall, twelve inches above the floor, and in the center, measuring from corner to corner. (A, Fig. 4.) Over this hole fit a box two inches deep and large enough to cover the hole and reach to a point six inches above the floor, which has the bottom open. This will shut out the light and admit the air. If the cellar is very light and this is not protection enough, a similar box on the inside will be needed. (X, Fig. 1.)

Make a box to fit the cellar window,

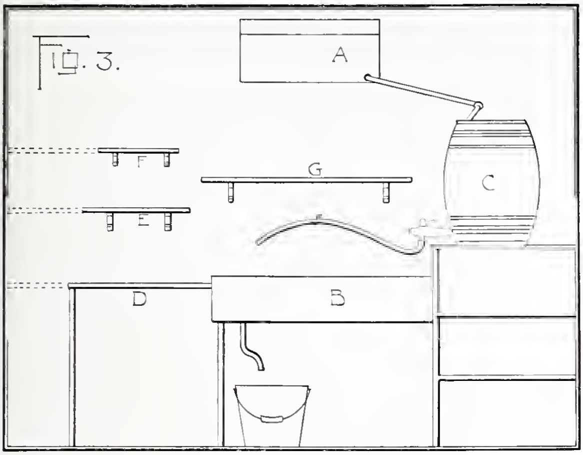


Fig. 3.

and twelve inches long. Over one end nail a lid which will not cover the opening, but will lack two or three inches of coming to the side which will be the *top* of the box when placed in position in the wall. (A, Fig. 3.) Four inches from this end nail in a partition to fill the space except a space of two or three inches at the *bottom* of the box. Four inches from this nail a like piece, leaving the opening at the *top*. Nail a lid on the outside like the first one, leaving the opening at the bottom. (Fig. 2.) When this is placed in the wall, flush with outside, no light can come in, yet you will always have plenty of good fresh air, which will keep your room cool and healthy.

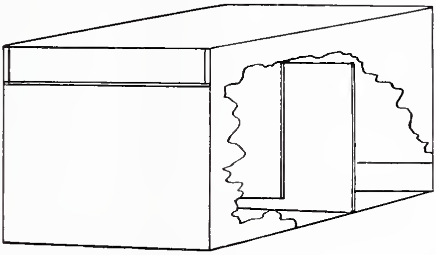


Fig. 2.

As to the interior fittings, some dry-goods boxes will furnish all the lumber needed. For your sink, take a box 18 by 36 inches and 24 or 26 inches high. Of course any other size can be used, but this makes a nice size for this room. Use the best side for the bottom of your sink, and remove the front (and bottom too, if you like). Have a piece of pipe (¾-inch gas pipe is good), with a flat flange having four holes for screws through it, fitted to one end. Make the flange 3½ inches in diameter. This is your waste pipe. In one corner of the bottom of the sink bore an inch hole; around this cut a depression ¼ inch larger than the waste-pipe flange and ⅛ inch deeper than the flange is thick. Cover the top of the box smooth and tight with "rubber duck" from your carriagemaker's. (Table oilcloth will do, but will soon wear out, and the trouble and expense of renewing it more than makes up for the extra cost of the rubber.) Have your cover come down an inch or more on every side. Make two pieces of 1-inch board 4 by 18 inches for ends. Cover one side, one edge (which will be the top) and both ends with rubber. Screw these to the ends of the box, lapping on the box an inch

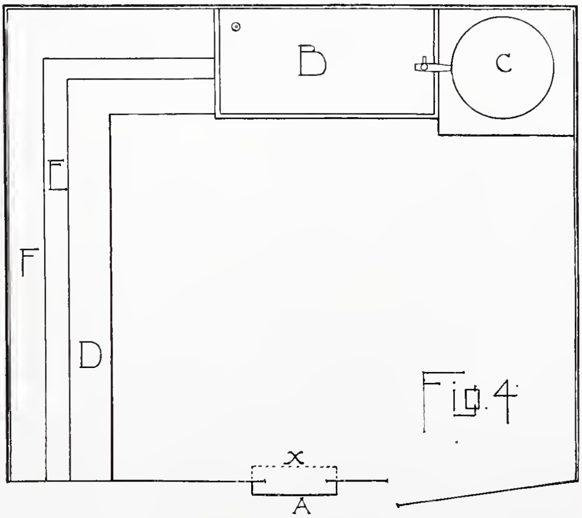


Fig. 4.

and extending above it three inches. Make two pieces for sides 4 by 38 inches. Cover one side and one edge with the rubber. Screw to the box and the end pieces, with the rubber inside, of course. Use screws to put these on with, for nails will soon work loose and make leaks.

Of a bicycle agent get a pound of "hard tire cement." Melt it carefully and don't burn it. With a small stick daub this in the corners of the sink all around. Cut an inch hole through the rubber over the waste-pipe hole. Coat the bottom of the waste-pipe flange, which has previously been warmed, with the melted cement, and screw it into place on top of the rubber. The depression you cut allows the flange to sink the rubber and leaves the top of the flange flush with the bottom of the sink. Connect the waste pipe to the drain, or to a bucket if you have no drain. You now have a sink which will last a long time and be just as good as a zinc-lined one, and at a fraction of the cost.

Have a keg for water, and make a shelf large enough to hold it, say 2 by 2 feet. Fix this between your sink and the end of the room. (*c* Fig. 4.) Fit a common wood faucet in the keg and fix a rubber tube, long enough to reach anywhere in the sink, on the outlet of the faucet. A hook in the wall will hold it out of the way when not in use. Fix a piece of large pipe (1½ or 2 inch gas pipe) through one corner of the window down to your keg and turn the outer end up to receive the nozzle of your hose, or a funnel if you fill the keg with a bucket. (X, Fig. 3.)

Make a table 18 inches wide from the end of the sink to the wall. Extend it across the end of the room. (D, Fig. 4.) Two feet six inches is a handy height above the floor. Sixteen inches above the table put a shelf nine inches wide. (E, Fig. 4.) Twelve inches above this put another, six inches wide. (F, Fig. 4.) Twenty inches above the sink put a shelf three feet long and eight inches wide. (G, Fig. 3.) Below the keg build two more shelves. Cover the table with oilcloth; it is kept clean so much easier. Have a cork to fit the waste pipe in the sink to stop the flow of water when wanted. Better tie it to the sink with a string, then it will be there when wanted. Make your door swing *out*, and have a hook on the *inside*. Use a stool without a back to sit on. Have a place for each separate article, and always keep it *just there*. Many little things — hooks, racks for plate-holders, a window for bromide enlarging with your camera, and many others — will suggest themselves to you as the need for them occurs. With a little thought and a very few tools you can make almost any darkroom convenience you may desire.

FRANK E. WHITE.

Toulon, Ill.

THE PHOTOGRAPHERS' CLUB OF NEW ENGLAND.

A meeting of the Executive Board of the Photographers' Club of New England was held at the Boston Tavern, March 9, 1899, at 3 o'clock P. M.

The following members were present: Mr. H. Schervee, president; Mr. G. H. Van Norman, treasurer; G. E. Putnam, secretary, and the following vice-presidents: Mr. M. D. Hanson, of Maine; Mr. G. M. Bolton, of Connecticut; Mr. H. H. Pierce, of Rhode Island.

The Membership Committee's report was accepted.

The Entertainment Committee gave a schedule which was read and discussed in full, and which, with some changes, was then accepted.

The Committee on Prizes submitted the following Rules and Regulations for exhibits at our next annual convention, October 5 and 6, 1899:

The exhibition shall consist of eight classes, namely: Two portraits, one genre; one exterior picture class; one landscape and marine class; also one portrait and one genre class open to exhibitors outside of New England only.

RULES AND REGULATIONS.

A. All exhibits must be suitably framed, without glass.

B. All exhibits must be in the hands

of the Committee of Hanging on or before October 3, 1899.

C. No exhibitor's name shall appear on any picture; each exhibit shall be numbered.

D. There will be no given prizes; but, instead, the judges shall open a salon and shall, the day previous to opening of convention, admit such pictures as, in their opinion, are worthy of that honor.

If, to the satisfaction of the judges, there should appear any pictures of sufficient merit to warrant any higher honors, the judges shall so report to the Executive Board.

The Board may award to such pictures any honor they may decide upon.

The judges shall consist of two artists and one photographer, and shall be appointed by the president and known only to him.

Should any picture receive higher honors than being admitted to the salon, and, through the courtesy of the exhibitor, become the property of this association, said picture shall receive a permanent place in our salon.

The classes are to be as follows:

A.—Six pictures, ten inches or larger.

B.—Six pictures, miniature size to ten inches.

C.—Genre class: Three pictures, ten inches or larger.

D.—Exterior pictures: Six pictures, any size. (This class to be judged largely on pictorial effect and composition, and each picture must contain one or more human beings.)

E.—Landscapes: Three pictures, any size.

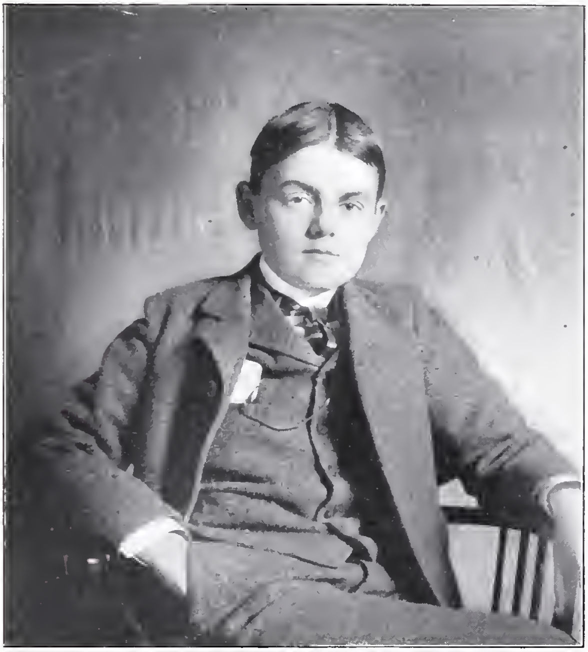
F.—Marines: Three pictures, any size.

G.—To exhibitors outside of New England: One portrait.

H.—One genre picture.

A motion was made and seconded that Mr. Schervee's suggestions in regard to prizes be accepted. Carried.

A motion was made and seconded that



Negative by E. K. Dyson, Chicago.

SECOND PRIZE.

the chair appoint a committee to draft changes in the constitution, same to be presented at our regular meeting.

The chair then appointed the following committee: Mr. G. H. Van Norman, Mr. M. D. Hanson, Mr. G. M. Bolton.

Moved and seconded that we adjourn at 5.40 P. M. Carried.

Adjourned.

(Signed) G. E. Putnam,
Secretary.

PHOTOGRAPHERS' ASSOCIATION OF IOWA.

F. Dundas Todd, Editor The Photo-Beacon:

Dear Sir,—The Photographers' Association of Iowa invite the professional photographers of other States, and amateurs generally, to make exhibits at our next convention, which will be held in Des Moines on May 23, 24 and 25, 1899.

The following special classes are open to them:

Special.— Professional photographers outside of Iowa. Six pictures, no restriction as to size. Gold medal for best exhibit. Fee $1.

Special.— Amateur photographers. Open to the world. Not less than six nor more than twelve pictures, no restriction as to size. Three or more exhibits must be entered in competition to entitle anyone to the prize. First, silver medal; second, special diploma. Fee $1.

Applications, accompanied by entrance fee, should be made to the secretary at least fifteen days before date of opening of convention. Exhibits should be shipped to J. C. Wilson, vice-president Photographers' Association of Iowa, Des Moines, Iowa, in time to reach there May 20. Cover of shipping cases must be screwed on. Charges must be prepaid.

W. O. Reed, Secretary.
Missouri Valley, Iowa.

A NEW STOCKHOUSE IN CHICAGO.

Stevens, Decker & Co., have opened a photographic supply house at 169 Wabash avenue, Chicago.

UNITED STATES COMMISSION TO THE PARIS EXPOSITION OF 1900.

Chicago Offices, April 4, 1899.

Gentlemen,—For the benefit of the trade which you represent, will you please state that all who desire to exhibit in the Paris Exposition of 1900 are requested to immediately notify this office, if they have not already done so, in order that they may be considered in the allotment of space which will soon be made. While there are many applications on file in every line of industry, it is desirable that the American sections be not only representative of this country, but also represent the largest possible number of producers. Both our commercial interests and national pride demand that our works be entered in this most important international exposition. It is estimated that fully 60,000,000 people from every part of the globe will attend, and it will be an opportunity to greatly increase our foreign trade and to demonstrate that the United States is supreme in the arts of peace.

If you desire to call further attention to the exposition and the benefits to be derived from exhibiting there, I send you under separate cover a pamphlet of general information, and a reprint from an article in the *North American Review* of January, treating of the trade benefits from exhibiting, which may interest you. Respectfully,

John H. McGibbons,
Director of Exploitation.

Approved:
Ferdinand W. Peck,
Commissioner-General.

Preventing Negatives Breaking in Printing Frame.— With the thin glass now common and the cheap and nasty printing frames, also common, there is more or less danger of negatives breaking when pressure is put upon them in the frame. And if a negative does break, you may be certain it will be the pink of the season's work. To avoid accident, cut some felting into strips, the width of the projection upon which the negative rests, and glue them down all round the frame. The felt will give to any slight unevenness and will prevent a fracture.

G. E. B.

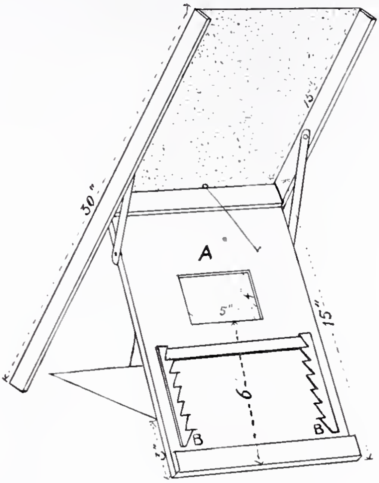
RETOUCHING.

In starting out to practice retouching the first need is to provide oneself with the necessary tools, which, fortunately, are neither numerous nor expensive. They consist principally of dope, pencils, a fine brush, india ink, a small knife and a retouching frame or easel. The latter can be easily made by following accompanying cut. This frame has the advantage of folding up flat and is made from a board 12 by 15 inches in size. The two legs are each 30 inches long and are fastened by screws at their middle so that the cardboard C is folded over the board when not in use. A 4 by 5 inch ground glass is placed in the board so that the light comes through from the underside. A support for the negative rests on A and has a groove in the top to hold it. It is adjusted to any convenient height by the notches in B B. A white cardboard is fastened about three inches from the bottom of the desk, and is raised or lowered by the string passing through E and fastened at F.

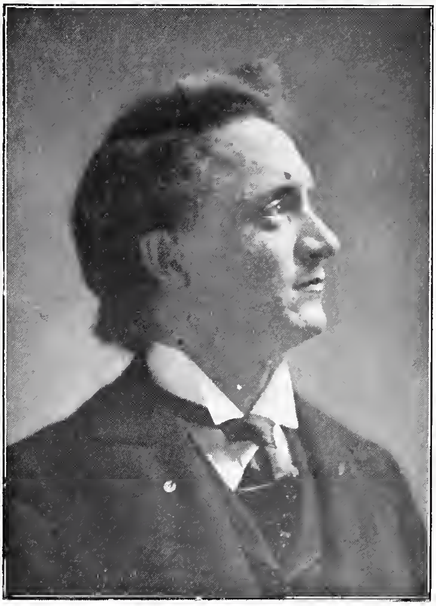
It is best to have a fine ground glass ; which may be made by placing fine wet emery between two pieces of glass and rubbing for ten or fifteen minutes.

Negative by J. P. Churchill, Yreka, Cal.

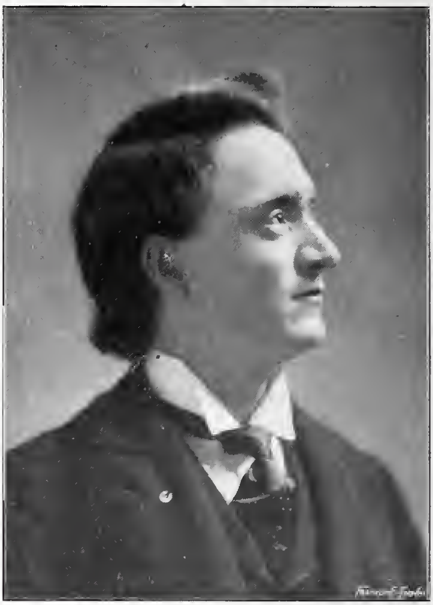
EVENING.



Negatives in everyday work range from those harsh and hard to the soft, thin ones. They must also be considered with reference to the paper on which they are to be printed and must be retouched accordingly. As a rule, the harsher the negative the coarser the stipple or strokes, a softer pencil being used, not quite so sharp, and the eye is held a little further away from the negative, so that more attention is paid to the general effect or modeling. With a soft negative, or when glossy paper is the medium for printing, a harder pencil is used, as a glossy paper brings out the little strokes so much plainer than does a matt paper.



UNTOUCHED.



RETOUCHED.

Discolored, yellow, brown or green negatives do not print as they look, and it is harder to decide how to handle them. It is essential with such to make proofs to see how the retouching is progressing, more especially as it is apt to be too light.

Dope is now used in place of grinding the negative with pumice stone, as was at first done. Even now, in the case of very smooth negatives, it is well to place a little fine pumice stone on the film and grind where you wish to retouch, using the tip of the fingers, but being careful to avoid grit as that would scratch the film. It can then be doped, or the retouching can be done on the ground surface. Where freckles are very decided, or much lead is needed, it is best to grind. Dopes are of two kinds, those rubbed on with a strip of cloth drawn over the finger and those that are flowed on like negative varnish. In doping, care must be taken to cover the entire negative, or the edge will produce a line on the print. My preference is the latter, as a second coat can be placed on the negative when the first has as much lead as it will hold. The formula for this is :

Ether	6 ounces
Gum mastic	60 grains

Dissolve and filter, then add

Gasoline	18 ounces

This will make enough for a whole club. It is ready for use as soon as dry, which will be in one or two minutes after the negative has been flowed.

It is important to get a suitable light in which to work. Use daylight if possible ; if not, a lamp or electric light will do. It is best to place a light blue tissue over the ground glass, as it is easier on the eyes ; with a lamp the light is regulated by its distance and it is best to use a reflector. Daylight is controlled by the cardboard, which reflects more or less light according to its angle, and when the light is very weak it may be replaced with a mirror. A piece of dark blue or black paper a little larger than the negative, having an opening about the size of the head to be retouched, is needed to shut off the light from the clear glass portions which would dazzle the eyes, and it also protects the negative from fingermarks.

Too strong a light leads to coarse, harsh, heavy retouching, and the negative is stippled too much and modeling is neglected, which is the all-important part in retouching. With too weak a light the high lights look muggy and lose detail, therefore strengthen the light till they lose this effect.

The pencils used by most retouchers are the H, HH, HHH, HHHH Fabers, the HHHH being the hardest. Select the pencil to use by the way the negative takes lead, using as hard a pencil as possible, but still getting on sufficient lead.

The way a negative takes lead is governed a good deal by the amount of alkali in the developer and the heft of the stroke which varies with different persons. There is also a little variation in dopes. I have found that an HH is a very good all-round pencil, but do the most of my own fine work with an HHHH, as my hand is a heavy one.

The pencil should be sharpened so that it has an inch of bare lead, then ground to a fine round tapering point on an emery paper, then rubbed a few times on a piece of ordinary paper to remove rough edges. It is held as if for writing, the side of the point being used. The pencil must be turned so as to bring a new side to the negative every few minutes. For very fine points a little pumice stone placed on a cardboard is the best to grind with.

A knife with a blade that will keep good edge should be chosen, then ground so that some part is straight and will remove a thin clean scrape without scratching, then give the blade a fine point for working out small spots.

Removing lead with a knife is very difficult and the beginner should not try it on any work he cares for, as it is apt to spoil the negative. The best way is to rub the lead off with a little dope and small stump made from some soft paper.

A No. 1 brush and a little black india ink is handy for spotting negatives or pictures, by working some of the ink up to the required density on the thumbnail, then just touching the dust spot. If the ink is too wet it will soak into the surrounding film and make it worse rather than better; if too much ink is put on it can be spotted back to color on the print. You will also find spots that have been worked so much that the lead has worked off and these will also have to be spotted.

Opaque is sometimes applied with the brush, on the back of the negative, over the high light in white draperies to bring them out. Dust the negative well, then apply the dope. Set your stand at a north window if possible, so as to get soft, even light, then cut off side light by throwing a cloth over the

Negative by Miss Mary Lewis, Springfield, Ill.

THIRD PRIZE.

stand. Take the negative, and adjust it to an easy height for the hand, and as soon as dry, spot out the pinholes with brush and india ink, and remove stray hairs with the pencil.

Now examine the negative and note particularly the general direction of high lights. These generally run across the forehead, over the eyebrows, down the nose, from the inside corner of the eye across the cheek, blending with the line running from ear to chin and one from the nose to the corner of the mouth.

With head at a distance of eight or ten inches from the negative, and using a well-sharpened HHH pencil, commence on the prominent high light on the forehead, and work toward the shadows. Fill up the clear spots with a very light touch, making a very short stroke, commencing in the center of a freckle and working toward the edges, always working in such a way that you can see the effect of each stroke. This requires the long tapering point, not a stubby, sharp point, which leads many into the habit of holding the pencil perpendicular to the negative and driving the point into the film. If the negative will not take lead, use a softer pencil, always working with the side of the point and making the strokes at right angles to the pencil, sometimes toward the hand, but never away from it, as it drives the point into the film and breaks the point.

When a small place has been nearly worked up, move the head back four or five inches, when you will see any unevenness, and be better able to bring it to the same density as the surrounding film. Be careful not to cross any of the strokes made before.

The object is not to have the forehead all one flat, even plane, but to smooth it and yet keep the roundness produced by the high lights grading into the half-tones and shadows.

Right above this high light you have been working is generally found a shadow cast by the hair. Try grading into it, first removing the spots, then evening or modeling from a greater distance.

Work the eyebrows next, commencing at one end and working toward the other; then model up the forehead as you think it ought to be. When this is finished, prove on a strip of paper, printing to the shade of a finished picture, and compare with photographs with similar lightings. This will show you what else ought to be done; probably even the proof alone will help you to decide. Be sure to hold the proof ten or twelve inches away, for if you learn to model the stipple will come of itself.

The nose is worked lengthwise, and it is best to have all the strokes that way on all high lights or shadows. First, broaden out between the eyes, and soften or remove the wrinkle between them, as by doing this it separates the eyebrows so that they are not drawn down into a frown. A looking glass will often tell us what changes to make, if we note the expression of the picture; then let our face grow more pleasant, noting what lines are changed — then changing them in the negative.

The line running from the corner of the eye across the cheek is next worked, the shadows under the eyes being filled a little; then the line from ear to chin. Care must be taken in a three-quarter-face view, for if you work across this line it is very easily lost, and the neck and face become one.

The rounding up of the cheek is almost done when the line from the nose toward the mouth has been rounded a little. Bring out the dimple in cheek or chin by strengthening the high lights around them and rounding them off a little. Round up the chin, and if the mouth droops, work it up a little, touch out crooked lips, being careful not to work on the edge, and rounding them. A touch or two will add beauty to the upper lip. Care must also be taken in working the shadow over the nostrils, as you can change a laugh to a sneer.

The shadow side of the face is worked the same as the light, but the touch must be lighter, and the light from reflector not quite so strong. Here you will have to soften the outline of shadow from the nose, but do not remove it. I make it a rule to soften the outline of all shadows, and to remove those that do not show their cause.

The neck is sometimes worked by laying the negative on its side and making the strokes down. This helps to save its shape and fill the wrinkles.

If you notice, I have been describing the lines of the face, which you will notice in any steel engraving. These will show you the line in profiles, and other positions of the head, and by working along them you will have your best success.

These few suggestions will open to you the art of retouching, but only give you a few of the mechanical operations, leaving the art side for you to work on.

The way a negative is taken will influence the way it retouches to a great extent; so I will drop a hint or two. Use your lens wide open, for even large groups can be taken if they are grouped with the curvature of the focus. Do not try to have the focus too sharp, as there is so much depth to your lens. It is best to focus on the eyes, but do so as far forward as possible. This gives more depth to the picture, also softens the blemishes and makes it easier to retouch. Again, by developing a little harder and using matt surface or platinotype paper many of the defects will not show, and the labor of retouching will be very much lightened.

In the prints that accompany this article we see well illustrated the advantages of retouching. The flat effect on the forehead has disappeared, while the mole, by means of the spotting brush and knife, has been removed. On the face are various projections which catch the light and these show on the negative, but all have been scraped out with the knife. Like most good negatives this one has a scratch which has been filled in with india ink, mixed with a little liquid glue. The focus on this face is all that could be desired. Notice the depth it gives the face as it softens from the nearest point. In a case of this kind the jaw cannot be worked in; it can only be suggested.

George W. Bucklin.

Mankato, Minn.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

VII.

(Copyrighted, 1898, by F. Dundas Todd.)

"An artistic impression is not given by an object, but by an object and an 'effect' together," and it is the correct knowledge of this that differentiates the mechanical from the artistic photographer. The technical skill of the former may be as good as that of the latter, but the print made by the first is a "photograph" and that by the second a "picture."

We all know that the likeness of the model is of paramount consideration, but likeness alone is nothing if not used with good "effect," and to arrive at that point where the eye can quickly perceive its real beauty requires not only constant application and education, but patience as well. I believe that in portraiture a greater number of bust pictures are made than of any other kind, and here there is practically only one point of the figure which the operator can look to for his picture — the head. In all portraiture, whether bust, three-quarter or full length, that is the principal point to which the eye is to be led up by the arrangement of the lines of the composition and by the masses of light and shade. Because there is only this one point is the reason why so many photographers "fall down" when they attack the photography of the head alone.

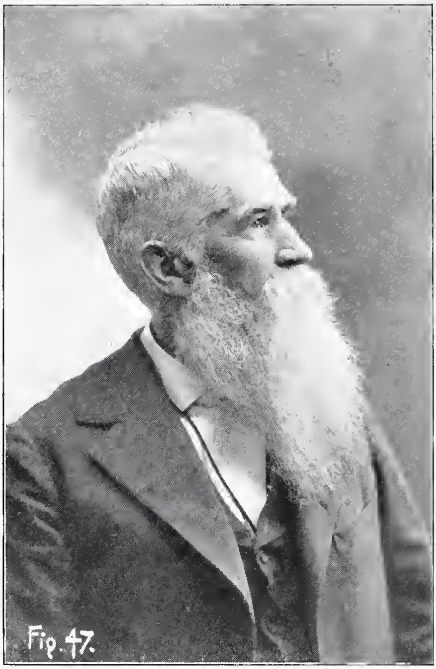


Fig. 47.

Now, for the proper handling of such subjects the lens is of major consideration, for there is absolutely no use in attempting artistic portraiture with a short or even a medium focus lens, and no photographer can ever approach creditable head work unless he is furnished with a long-focus lens—the longer the focus (within reason) the better; say about fifteen or sixteen inches for a bust picture. The outlines of the head, whenever they leave the plane of the face, should soften off into the background and not stick out (as they only too often do) as if the figure was cut out of cardboard. Direct your attention to Fig. 47, and leaving aside for the moment the pose of the figure, I ask you to confine your attention to the focusing. You notice that all around the back part of the head the line is hard and stiff and (in the print) you can trace each individual hair; even the shoulder line of the coat is sharply defined and is still further accented by the mass of light against it — making, as we before saw, a still sharper line *by contrast*, thus leading the eye away from the face. I am not aware how far down the lens was diaphragmed, so, therefore, direct my criticism to the lens itself. By using one of longer focus and slightly turning the face more toward the camera a focus could have been obtained upon the side of the nose, and everything in that plane would have been equally sharp, while everything else would have become more or less indistinct.

In the diagram (Fig. 48) the circle (A) represents a human head, while (B) represents the camera. (Of course, it is to be understood that you are now looking from above directly down upon the top of the head.) When you have sharply focused upon the side of the nose (as before mentioned) which may be represented by the point at K, everything on that plane which is represented by the line D C will of course be equally sharp, while the plane farthest away from the

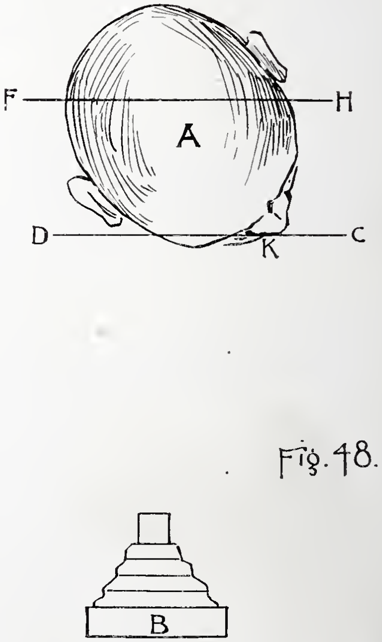


Fig. 48.

lens represented by the line F H will be decidedly more or less blurred, according to the focal length of the lens used. Many make the mistake of diaphragming down to such a small opening that when they have succeeded in getting a good focus on D C they force a sharpness also into F H and intermediate planes, and this is fatal to artistic effect. With a lens of extremely long focus, of course some diaphragming is absolutely essential; but the majority of lenses of the present day will not stand it, and must be used wide open. This is the primary principle in all head and bust portraiture, and cannot be transgressed without greatly endangering the artistic success of the picture.

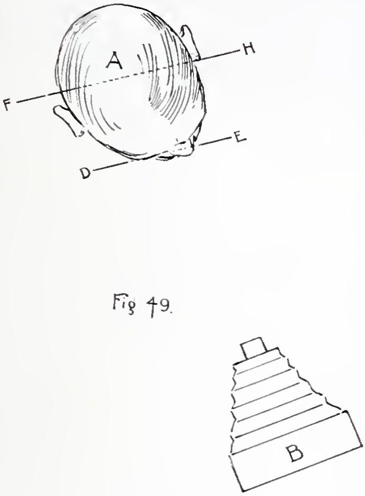


Fig 49.

The reader must bear strongly in mind that reading alone will not teach him to be artistic; constant practice is necessary at all stages of instruction, for once a thing is actually performed as an experiment then it is indelibly impressed upon the mind of the worker, whereas any amount of reading will simply tend to confusion. The mind and hand must be trained at the same time.

But, you say, my patrons want detail. Certainly they do, but they don't want too much of it; the general public are not so dull that they do not appreciate artistic work. Honey is to a great number of us a great dainty, but we don't want honey for each meal, and so it is with detail. Take your model at the distance of a few feet and carefully observe. You cannot see at all the freckles, for instance, which you know to be there, and at a still greater distance you will see less and less of the detail — the minute "cracks and crannies" with which you know the skin to be covered. Then if your eye cannot see such detail at the distance of only a few feet why should you want to show it in your print; or, giving you the benefit of the doubt and supposing you don't want to show it on your print, why should you allow your lens to show it? Do not run to the opposite extreme and suppose that I am advocating a "fuzzy" and "out of focus" result — far from it. I want it in focus — ON THE PRINCIPAL PLANE, BUT ON NO OTHER. Such a photograph will not be "fuzzy," but artistic and naturalistic.

For example, suppose we are about to focus on a head in three-quarter front view as shown in Fig. 49, where A represents the head and B the camera, it would be better (to obtain the most artistic result) to focus upon the plane represented by D E — namely, the right cheek of the sitter. The plane at F H is as far as the eye will see from the position of the camera and will be more or less out of focus (again depending on the focal length of the lens), so will the tip of the nose, which will be within the the focus, and therefore fuzzy. Now rack carefully until the tip of the nose is sharp and then back again to the cheek plane, and after a few turns thus backward and forward stop (as near as possible) at a point about midway between, and diaphragm down only until the plane of the first focusing — the cheek — becomes again sharp. By this means you will find that the tip of the nose is equally sharp with the remainder of the plane first spoken of, but that all others depend entirely on effect for their portrayal, while the first plane abounds in detail.

R. James Wallace.

The "Photo-Beacon Exposure Tables" are worth their weight in gold.—*George T. Todd, United States Weather Bureau, Dodge City, Kansas.*

THE DARKROOM

MAKING UP SOLUTIONS OF KNOWN STRENGTH WITHOUT WEIGHTS.

There are certain solutions in constant use by the photographer which, though required of a certain strength, need not be made up with anything more than very approximate accuracy. Hypo, for instance, is usually used at a strength of one in five for negatives and one in ten for prints; a deviation of a very considerable amount will make no difference to the results, but, on the other hand, to measure the amounts by guesswork is rather too rough; yet few photographers trouble to weigh out their hypo.

The method which I am about to suggest dispenses entirely with the necessity of scales and weights, a graduated measure being all that is necessary — in fact, for solutions which are always required at a certain strength, a bottle with two marks on is sufficient apparatus. The principle, which is no newer than ancient Greek history, is the following:

A given weight of any substance, when immersed in a liquid, displaces a fixed volume of the latter. This volume is entirely dependent on the specific gravity of the substance.

Not having a table of specific gravities at hand, I have had to find by experiment the volumes of liquid displaced by given weights of different substances, which are given herewith with sufficient accuracy for the purpose in hand. The number of cubic centimeters displaced by twenty-five to ninety grams was measured, and the various columns worked out from that.

The tall tubular measures graduated in cubic centimeters are more accurately read than the English ones, the possible error being about half a cubic centimeter (about eight minims). The following is an example of the way of using the table:

Suppose we wish to make up twenty ounces of hypo solution containing five ounces avoirdupois of hypo in the twenty ounces of solution.

We find from the table that five ounces avoirdupois displace two ounces six and a half drams of liquid. We measure in graduate twenty ounces, less two ounces six and a half drams, that is, seventeen ounces one and a half drams of water. (This is most accurately done by filling up the whole twenty ounces and pouring off into a smaller measure two ounces six and a half drams.) We then fill up to the twenty-ounce mark with the solid hypo crystals. A still more convenient method would be to have a wide-mouthed bottle with two lines marked outside on a gummed paper slip or scratched on the glass itself; found once for all by filling up first to seventeen ounces one and a half drams, and then to twenty ounces. By having an extra mark the same bottle may be used for two different strengths of solution.

Now as to the accuracy obtainable in this way: my figures are within about three per cent of correctness in those cases where I was most liable to error, either from the high specific gravity of the substance (e.g., potassium bichromate) or the relatively small quantities experimented on (alum and potassium carbonate). In other cases, where the observations were made with larger quan-

	Sod. Hyposulph. (granulated).	Sod. Oxalate (cryst.)	Sod. Sulphite (cryst.)	Sod. Carbonate (granulated cryst.)
1 gram displaces	.55 cc.	.48 cc.	.64 cc.	.67 cc.
2 grams displace	1.10 cc.	.96 cc.	1.28 cc.	1.34 cc.
3 grams displace	1.65 cc.	1.44 cc.	1.92 cc.	2.01 cc.
4 grams displace	2.20 cc.	1.92 cc.	2.56 cc.	2.68 cc.
5 grams displace	2.75 cc.	2.40 cc.	3.20 cc.	3.35 cc.
1 oz. avoirdupois displaces	4 dr. 30 m.	3 dr. 50 m.	5 dr. 7 m.	5 dr. 22 m.
2 ozs. avoirdupois displace	1 oz. 1 dr.	7 dr. 40 m.	1 oz. 2 dr. 14 m.	1 oz. 2 dr. 44 m.
3 ozs. avoirdupois displace	1 oz. 5½ dr.	1 oz. 3 dr. 30 m.	1 oz. 7 dr. 21 m.	2 oz. 0 dr. 6 m.
4 ozs. avoirdupois displace	2 oz. 2 dr.	1 oz. 7 dr. 20 m.	2 oz. 4 dr. 18 m.	2 oz. 5 dr. 28 m.
5 ozs. avoirdupois displace	2 oz. 6½ dr.	2 oz. 3 dr. 10 m.	3 oz. 1 dr. 35 m.	3 oz. 2 dr. 50 m.
1 oz. apothecaries' displaces	4 dr. 54 m.	4 dr. 12 m.	5 dr. 36 m.	5 dr. 52 m.
2 ozs. apothecaries' displace	1 oz. 1 dr. 48 m.	1 oz. 0 dr. 24 m.	1 oz. 3 dr. 12 m.	1 oz. 3 dr. 44 m.
3 ozs. apothecaries' displace	1 oz. 6 dr. 42 m.	1 oz. 4 dr. 36 m.	2 oz. 0 dr. 48 m.	2 oz. 1 dr. 36 m.
4 ozs. apothecaries' displace	2 oz. 3 dr. 36 m.	2 oz. 0 dr. 48 m.	2 oz. 6 dr. 24 m.	2 oz. 7 dr. 28 m.
5 ozs. apothecaries' displace	3 oz. ½ dr.	2 oz. 5 dr.	3 oz. 4 dr.	3 oz. 6 dr. 20 m.

	Pot. Carbonate (granulated cryst.)	Pot. Bromide.	Pot. Bichromate.	Alum.
1 gram displaces	.40 cc.	.40 cc.	.36 cc.	.58 cc.
2 grams displace	.80 cc.	.80 cc.	.72 cc.	1.16 cc.
3 grams displace	1.20 cc.	1.20 cc.	1.08 cc.	1.74 cc.
4 grams displace	1.60 cc.	1 60 cc.	1.44 cc.	2.32 cc.
5 grams displace	2.00 cc.	2.00 cc.	1.80 cc.	2.90 cc.
1 oz. avoirdupois displaces	3 dr. 12 m.	3 dr. 12 m.	2 dr. 53 m.	4 dr. 38 m.
2 ozs. avoirdupois displace	6 dr. 24 m.	6 dr. 24 m.	5 dr. 46 m.	1 oz. 1 dr. 16 m.
3 ozs. avoirdupois displace	1 oz. 1 dr. 36 m.	1 oz. 1 dr. 36 m.	1 oz. 0 dr. 39 m.	1 oz. 5 dr. 54 m.
4 ozs. avoirdupois displace	1 oz. 4 dr. 48 m.	1 oz. 4 dr. 48 m.	1 oz. 3 dr. 32 m.	2 oz. 2 dr. 32 m.
5 ozs. avoirdupois displace	2 oz.	2 oz.	1 oz. 6 dr. 25 m.	2 oz. 7 dr. 10 m.
1 oz. apothecaries' displaces	3 dr. 30 m.	3 dr. 30 m.	3 dr. 9 m.	5 dr. 5 m.
2 ozs. apothecaries' displace	7 dr.	7 dr.	6 dr. 18 m.	1 oz. 2 dr. 10 m.
3 ozs. apothecaries' displace	1 oz. 2½ dr.	1 oz. 2½ dr.	1 oz. 1 dr. 27 m.	1 oz. 7 dr. 15 m.
4 ozs. apothecaries' displace	1 oz. 6 dr.	1 oz. 6 dr.	1 oz. 4 dr. 36 m.	2 oz. 4 dr. 20 m.
5 ozs. apothecaries' displace	2 oz. 1½ dr.	2 oz. 1½ dr.	1 oz. 7 dr. 45 m.	3 oz. 1 dr. 25 m.

tities (hypo, sodium carbonate, and potassium oxalate), one and a half per cent is nearer the margin of error. In using this method the *extreme* error in measuring *might* be two cubic centimeters (thirty-four minims) on the total amount of water displaced by the substance. If this were hypo or oxalate, that would mean about four grams or a dram on the total amount of substance taken. In the case of heavy substances, e.g., bichromate, the error would be more, about six grams or one and a half drams; in the case of lighter ones, e.g., sodium carbonate, less, about three grams or half a dram. By using greater accuracy in measuring, the above errors may easily be reduced to about a quarter.

It will be noticed that the above are *absolute* errors, which do not vary with the amounts of substance used; that is to say, that while on half an ounce there might (with sufficient carelessness in measuring) be an error of twenty-five per cent, with five ounces and the same inaccuracy the error would be only two and a half per cent. Our hypo bath, for instance, might contain four ounces and a dram to the pint instead of four ounces.

I will here note that the method used by a well-known expert, of approximately weighing hypo, by measuring it out solid in a measure, and which would seem, in the light of what I have written above, to be likely to give about twice the amount required, is, in reality, very near the mark.

Trying it with granulated hypo (small dry crystals) it gave very good results. The weak point, of course, is, that if the crystals were larger the amount would be less; if the hypo were finely powdered it would be much too much.

In making up a solution by my method, greater accuracy may be secured by commencing with only a portion of the solvent, adding the remainder after the substance is dissolved; this corrects any shrinkage of volume which might otherwise occur. Hot water may be used in a similar way.

I will give a final example before closing this article. Suppose we wish to make up the Eastman developer alkali solution :

Soda carbonate........	3 ounces avoirdupois
Potassium carbonate...	1 ounce "
Water.....	32 ounces

The soda carbonate displaces two ounces six minims; the potassium carbonate displaces three drams twelve minims. Considerable care will be necessary to get the percentage of potassium carbonate right. We may take not too large a quantity of water to start with. If we care to complicate matters a little we need only take four drams forty-eight minims in an ounce measure, and carefully pour in the dry potassium crystals till the ounce mark is exactly reached, and then in a large measure filled to, say, four ounces with water, add enough soda crystals to reach the six-ounce mark (disregarding the six minims), pouring the contents of the small measure into the bigger, and rinsing out with hot water, which is added to the bulk of the solution, making up to near the total bulk, and completing the thirty-two ounces after solution and cooling. By using the small measure great accuracy can be obtained, but the two substances might also be added one after the other to the same solution; and the thirty-two ounces made up at once.

To photographers away from home this method should prove a convenience. I may suggest that the amount displaced, per ounce say, might be written on the label of any bottle containing solution, for reference when making up again.

When I am able to get a list of the specific gravities of various other photographic chemicals I hope to improve my list.—*Photography.*

JOHN C. WARBURG.

NEW EDITION OF THE "PHOTO-BEACON EXPOSURE TABLES."

The third edition of the above book is now exhausted, making a total of 10,000 copies that have been sold. The fourth edition, of 10,000 copies, is now on the press and will be ready in a few days.

Negative by McLain W. Davis, Minneapolis, Minn.

SUMMER.

BRUSHING.

Of the many manipulations connected with the practice of photography, perhaps there are none deserving of more consideration, and which at the same time receive so little attention at the hands of photographers generally, than the use of a brush in development, and other equally important operations connected with an all-round practice.

No doubt, the use of a brush is strongly urged by some plate manufacturers, in combination with the ordinary application of a quantity of developing solution to a sensitive plate by means of flooding the developer over its surface, and the Platinotype Company have been instrumental in drawing the public's attention to the advantages of this method of developing their admirable printing papers, chiefly through the medium of an excellent little handbook, and which they circulate among all the dealers for the purpose of giving instructions as to the best means to follow in the working of their sensitized papers. But with the vast majority of workers the idea of using a brush in many of the ordinary operations connected with the practice of photography is almost entirely unknown, or at least the writer has found it so during the course of a pretty wide experience among a large number of members of the various photographic societies in the west of Scotland.

Of the numerous uses or applications to which a broad camel's-hair brush may be put with advantage, perhaps there is none more strikingly practical than the part such plays in the development of prints on large or small sized sheets of bromide paper. Anyone who has never seen a brush used, and who happens to be a witness for the first time to the bringing into view by means of development of such images by the merely passing across the surface of the paper a soft camel's-hair brush well charged with developing solution, invariably gives vent to an expression of surprise at the extreme ease and simplicity of such an operation as compared with the more commonly practiced and cumbersome method of flooding the entire surface, very probably, of a large-sized sheet of paper with a considerable quantity of expensive developing solution.

It only wants to be once optically demonstrated to cause the brush being forever afterward adopted for such a purpose.

But very little consideration will be required by anyone having experience in the development of enlargements on bromide paper to see at once that not the least of the advantages pertaining to the use of a brush lies in its *economy*. With metol at 2s. 6d. per ounce, which is now so much in vogue for the development of bromides, and which bids fair to rival and supplant our good old friend, ferrous oxalate, this question of economy alone becomes an important factor, for in reality the adoption of brushing in place of flooding necessitates the employment of a very much smaller amount of developing solution (probably only one-fifth of what is required in flooding) when such is employed to the entire surface of a print in one full wave of developer.

It is not, however, on the score of economy alone that the advantages lie with the use of a brush; there are several others of which mention should be made, namely, the power an operator possesses of retarding or hastening the development of any desired portion of the image during the time such is seen coming into existence. With a brush the entire operation of development is at all times completely under control, and many a fully exposed proof can be manipulated in such a manner as to cause the same eventually turning out an acceptable print, which, by the method of flooding, would only yield poor, flat results; whereas, when brushing is resorted to, at no time does an operator lose control or allow the image to get beyond his being able to retard or accelerate the development of such as a whole or in part, for by means of one or two extra brushes, which should always be kept at hand, well charged by soaking the same in specially prepared redeveloping solutions provided for this purpose, certain portions may be kept back and others hastened forward in quite a marvelous manner to those unacquainted with this extremely useful and practical method of development.

Anyone who for a moment gives this subject a little thought, and who judges these manipulations from a common standpoint, is very apt to imagine that such a method as I am advocating is more liable to cause streaks or surface markings than would be the case with the old, or rather more commonly practiced (for brushing is not a new idea), method of flooding the entire surface with one full wave of the developer; but in practice such objections do not exist, although those workers who have never seen a print brushed into existence are very liable to imagine that such would be the case; and especially is this so with those who for the first time are eye-witnesses of the operation, for the first brush marks invariably bring into view those parts where the brush has applied the developer at the very outset, somewhat in advance of those parts where the brush was applied a few seconds later on. A very short time is needed, however, to show how beautifully all this seeming irregularity is dispelled, for in a very few seconds the parts where the brush was latest applied catch up the earlier strokes, and all the portions develop out in beautiful regularity without any of the attendant difficulty and mess nearly always present when dealing with the slinging of large quantities of developing solution in large wooden or other kinds of dishes.

By the use of these extra brushes high lights can be retained and strength added to shadows and the other black portions of a positive image in quite a marvelous manner.

It is not only, however, in development that brushing proves particularly useful in the hands of an operator. As I write these lines I see before me the results attained by means of a brushing operation that would have been quite impossible of accomplishment without the services of such. I refer to the advantages a brush confers in the application of a solution of mercury to certain portions only of a negative that required being strengthened in parts without applying such as a whole.

In such cases as this, no doubt, brushing confers a great advantage, and much may be done to even intricate parts of a negative by means of a brush that cannot be treated in any other way.

The partial intensification of negatives has always been a subject of much importance with advanced workers, and a good many somewhat intricate dodges have been resorted to from time to time whereby certain parts of a negative are specially prepared with some preservative temporarily, so as to permit of other portions receiving an application of mercury without the same affecting the parts so shielded. India rubber solution, gum, and, in some instances, varnish, have been used for this purpose of temporarily protecting the parts that were already dense enough. In my experience all such expedients are unnecessary, for the parts it is intended or desired to intensify can be easily treated with mercury by means of a broad or finely pointed camel's-hair brush in an extremely effectual manner, by simply touching such parts with a damp brush, or, in other words, with a brush that is not overcharged with mercury.

To those anxious to try this method of working I offer the following suggestions: Any negative that it is desired to intensify in parts only should be first well soaked in cold water until the entire surface of the film becomes soft; it is then placed away on end to drain in some cool place; in about an hour's time all the water that the gelatin has not absorbed will have left the surface of the negative, the film of which will now be in a soft and somewhat swollen condition, but there will be no surface water that could possibly convey by running any mercury that is applied to its surface by means of a brush.

When the negative is in this damp condition it is either placed on a retouching desk, or, preferably, on a horizontal support with a white reflector underneath. A suitable brush, according to the size of the parts it is intended to apply the mercury at, is then used in a *damp* state, charged with the intensifying solution, and with this those parts only are treated; and in a few minutes it will be seen that such begin to thicken up nicely. Broad parts can be treated with a flat brush. Then the negative is well washed again, and finally the ammonia solution applied. Such is another of the many advantages of using a brush, and once an operator begins to taste of its great utility he will never discard it.—*The British Journal of Photography.*

T. N. ARMSTRONG.

THE PRINTING ROOM

CHANGE IN PAPER PRICES.

WHY AND WHEREFORE.

The advance of sixty per cent in raw paper stock made by the foreign mills has, of course, had its effect on the sensitized paper market. Gelatin papers have been forced up 60 cents per gross, or from 75 cents to $1.35 for cabinet. Very little change has been made in the American Aristo papers; the only real advance being 25 cents per gross on Aristo Jr. cabinets. Platino cabinets remain the same.

Discounts to dealers have, however, been changed, which will, of course, effect a similar change in dealers' discounts to photographers.

Consumers of permanent high-grade collodion paper will suffer little or no inconvenience, but consumers of cheap papers will be obliged to raise their price of photographs or suffer loss.

The most notable feature of these changes is the small advance on American Aristo papers compared with the advance in price of raw stock and other brands of sensitized paper. This is due to the enormous increase in the demand and output of these time-proved permanent brands of paper, enabling the American Aristotype Company to gradually and legitimately reduce the cost of manufacture by virtue of the economy which always accompanies such conditions, and thus in part balance the increase in raw material.

HOW TO ENAMEL PRINTS.

Although a highly enameled surface on photographic prints is somewhat out of fashion at the present time, there are certain subjects to which such a surface gives more charm. There are also certain people who will have nothing to do with a photograph unless it has what they call a polished surface.

For such, both amateur and professional, I have often to cater, and to produce what pleases, which it is always wise to do, particularly if the interested party is a wealthy aunt or uncle.

In certain kinds of work a highly glazed surface is, however, an absolute necessity to bring out all the detail possible. There are several methods of producing an enamel surface; that most common among professionals is to pass the prints, after being mounted and thoroughly dried, through a hot burnisher, the surface coming in contact with a

Negative by G. Hanmer Croughton, Rochester, N. Y.

NOONDAY MEAL.

highly polished plated steel bar or roller. In the case of the bar burnisher, the print is dragged across the enameling surface. In the roller type there are two rollers, the top one, which is grooved, being made to revolve quicker than the lower one; the latter has a highly polished surface, is hollow, and is usually heated by a Bunsen burner fixed inside.

A good burnisher is a rather costly piece of apparatus for an amateur, and is not a necessity where only a few prints are to be glazed at a time.

The best and simplest method for amateurs is to squeegee on to glass or ferrotype plate, and as this means, simple as it is, has some difficulties, details of procedure would be useful to many.

Glass gives the best surface, but is unfortunately so easily broken; ferrotype is more durable, but does not give quite so high gloss, although sufficient to satisfy the "polish craving" of most ordinary people. Whatever surface be chosen it must first be well washed with soap and hot water, and thoroughly dried. Next rub over well with white furniture cream, rub this off again, and thoroughly polish with a dry cloth until the cloth or finger drawn across the surface does not leave a streak.

The prints taken direct from the washing water, or in hot weather, dried after washing and soaked for a short time in water to soften the gelatin, are placed face down on the polished surface and squeegeed into optical contact by firm pressure with a rubber roller squeegee.

They must then be put aside until thoroughly dry — bone dry, in fact; this is important, as unless they are properly dry it is impossible to get them off successfully.

When dry, lift one corner with a knife and strip the print from the surface, which can easily be done if all is in proper order.

It is most important that whatever surface be used, it must be well washed and well polished before the prints are put in contact.

Another method of enameling, one

suitable for albumen prints, is as follows: Coat a sheet of glass with plain collodion, the glass, of course, having been polished with talc or French chalk. Float the print on a warm solution of gelatin, ten grains to the ounce, and while wet squeegee into optical contact with the collodionized glass. When dry, it can be stripped in manner named above.

The best kind of glass for this purpose is polished plate. This, however, is rather dear. Ordinary 32-ounce sheet glass gives excellent results, as also do old or spoiled negatives if the film be cleaned off, though great care must be taken when squeegeeing prints down; the glass being thin is very easily broken.—*The Photographic News.*

F. W. COOPER.

A PRINTING HINT.

I would like to tell you something that perhaps is well known to you, but as I have never seen it in any book or heard of anyone using it, it may be that it is not so generally known. I squeegee my prints on a plate and accordingly have to mount them dry. It happens at times that I get a little daub of paste on the face of the print and it makes it look bad. I have tried many ways to take it off and still preserve the gloss, but have found but one way to do it. I take benzine and paraffin (the same as I use on the plate to keep the prints from sticking) and drop a little on the spot and then rub lightly with a soft chamois skin. It will not hurt the gloss, and will remove the spot entirely.

ANDREW RORUP.

Hartford, Wisconsin.

PERMANENCY OF VELOX PAPER.

NEPERA PARK, N. Y.,
April 5, 1899.

The question of permanency of the different printing papers now on the market is one that should be of interest to every one using them, especially their keeping qualities before exposure and development. We have recently received a communication from Mr. H. C. Moore, of Telluride, Colorado, in which he says: "I developed some [Velox] today that I got from you about three years ago, and the prints came out fine." At our request Mr. Moore sent us in some of these prints, and they are certainly very fine, possessing all the qualities of a freshly made paper. We think this speaks well for the permanency of our products.

THE NEPERA CHEMICAL CO.,
W. E. WOODBURY.

WHO DISCOVERED PHOTOGRAPHY?

Lecturing before the North Wilts Field and Camera Club on the history of photography, Mr. G. E. Brown said that it was not an easy task — in fact, it was an impossible one — to point to one

Negative by W. A. Berry, Manson, Iowa.

CARPENTER.

single discovery or to one single man, and say that was the invention, or that was the inventor, of photography. Photography owed its existence not only to the men whom they called the inventors of the art or the science — such as Davy, Niepce, Fox, Talbot and Daguerre — but just as much to those investigators— chemists and physicists — who made straight the way for the purely photographic experiments. He thought all those present would agree with him that all the photographic work prior to the labors of Wedgwood and Davy in the early part of this century was of a very preliminary character.

If they went to Germany they would learn that it was a German who discovered photography. For his own part, he was surprised that a distinguished German like Doctor Eder should have wished to annex the honor of discovering photography to the happy Fatherland. Surely it was enough that Germany had been given the best music and almost the best poetry in the world, that she had extended the boundaries of science farther, and had fathomed the abstractions of philosophy deeper, than any other nation.

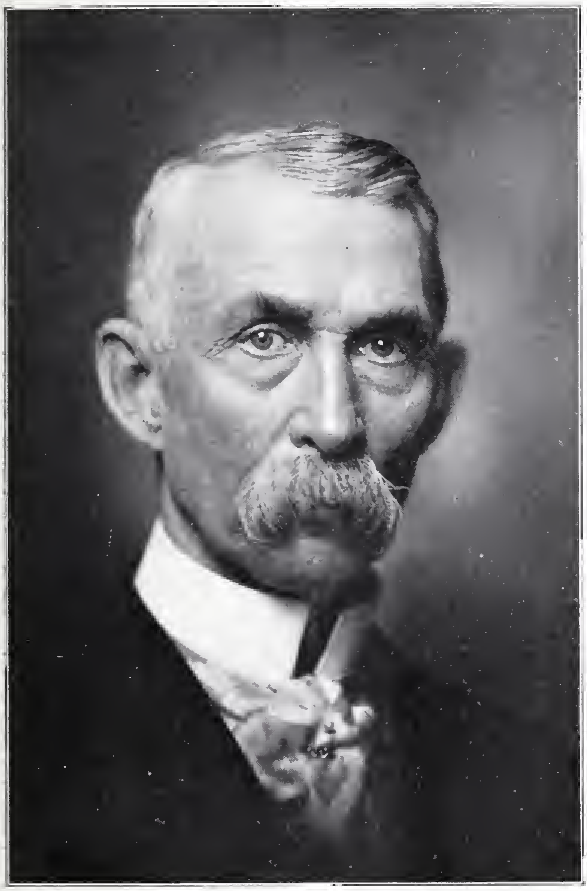
Negative by Frank E. Foster, Iowa Falls, Iowa.

A REFRESHING DRAFT.

The discoverer of photography, according to Doctor Eder, was one Schultze, a German professor of medicine, and an experimental chemist. What Schultze did was to mix some chalk and nitric acid, and added to it some silver nitrate. He noticed that the mixture blackened in the light, and by pasting letters and characters outside the bottle containing the mixture was able to obtain an image, white, on a black ground. That was in the year 1727, but he considered Schultze's labors could hardly be called the invention of photography.

Scheele, the famous Swedish chemist, did in 1777, with silver chloride, what Schultze had done with the mixture of chalk and silver nitrate. He showed that the chloride was blackened by sunlight; that it was the violet rays of the spectrum which were the most active in producing that change, and that when the chloride darkened, chlorine or some compound of chlorine was given off. But Scheele never continued his photochemical researches very far. They need not consider any other investigators till they came to Wedgwood and Davy. The latter deserved the thanks of photographers chiefly because with his characteristic insight he saw the promise of the possibilities of his friend Wedgwood's crude process.

The outcome of their intercourse was that they designed a simple photographic printing process. Paper or white leather was floated on a solution of silver nitrate, dried and exposed to light beneath such objects as engravings or ferns. By that means a negative copy was obtained. Davy afterward improved the process by using chloride of silver. Unfortunately, neither experimenters could find a means of preserving the unaltered silver salts from the action of subsequent light, so that when the prints were left in the light they speedily became of one uniform dark tint. The power of hyposulphite of soda to dissolve chloride of silver and to leave the darkened product unaltered it was left for Sir John Herschel to point



Negative by E. Sharpsteen, Grand Rapids, Mich.

out. The lecturer then went on to deal with the experiments of Niepce, Daguerre, Fox Talbot and Herschel, the latter of whom he said must be counted among the founders of the art of photography.— *Photography.*

G. E. Brown, F.I.C., F.C.S.

A NEW ACID FIXING BATH.

This acid fixing is simply compounded by the addition of meta-bisulphite of potassium in the proportion of one ounce to the pound of hypo. There is no question as to the order of mixing; they may be put into the water together, and so dissolved; there is no deposit to be filtered out: the bath remains clear and limpid after repeated using; and, best of all, I have never seen an alum stain since using this fixing bath.

My procedure, now, is as follows: After development I give about ten seconds' wash under the tap, if convenient (if inconvenient, never mind; omit it), and put the plate into an acid fixing bath, made as described. After ten minutes' fixation, and another ten seconds' wash (which can also be omitted if desired), I give five minutes in a plain alum bath, and the plate is ready for the final washing. You will observe that, contrary to a celebrated formula, I always omit the alum bath before fixing, and my reason for so doing is because the use of alum before hypo is the course most conducive to producing alum stains.

I have occasionally been met with the remark, "But my plates frill if I do not use alum before fixing." I used to answer, "Then try another make." This, perhaps, is rather too sweeping, although there are plenty of plates to be had that will not frill under such treatment. I am indebted to Mr. J. T. Sandell for a valuable suggestion as to the treatment of a plate with a tendency toward frilling. You may have observed yourself that it is exceedingly rare for a plate to frill in the developer unless development is pushed to an enormous extent. Frilling generally shows itself during washing after development, or in the washing after fixation. Mr. Sandell pointed out that these intermediate washings were unnecessary if an acid fixing bath were used, and I am now quite unconcerned as to the future possibilities of a negative on a brand of plate that is known to frill a good deal. I develop it, fix it, alum it, without any intermediate washings whatever, and when I follow this course I never lose a plate from frilling troubles. There is this to be said, however: if the plate will allow of it, and it is convenient to do so, a short intermediate wash is desirable, as your fixing and alum baths will remain clearer and have a longer life.

On the whole, then, and for the reasons I have indicated, I advocate the use of alum after an acid fixing bath.—*The Photographic News.*

W. E. A. DRINKWATER.

EDITORIAL TABLE.

The "Photo-Miniature" is the latest entrant into the field of photographic journalism, and is unique in its way, as each issue will be a monograph on some special photographic subject. For instance, No. 1 deals with photographic lenses, and is practically a very complete handbook of the subject, treating fully of the older, as well as the more modern types, giving special attention to the anastigmats and showing their superiority over the older forms of lenses. It is profusely illustrated, and we can recommend the article to all those who so frequently write us as to "which is the best lens?"

The publishers are Tennant & Ward, 289 Fourth avenue, New York. The price of each number is 25 cents. We are glad to see that no free samples are given.

Two Books outside the photographic field came into our possession lately that we feel like mentioning to our readers, as both are something that we have been looking for for some years. The first is entitled "English Synonyms, Antonyms and Prepositions," by James C. Fernald, and is really a guide book to "the word to use." Handbooks of synonyms are nothing uncommon, in fact we have a few somewhere in the house now, but they are usually a meaningless combination of words, and nothing but words. This book is something more, for besides giving a list of synonyms it proceeds to differentiate them and shows when and where to use any particular word. And this is what we have long wished for, as no man can write clearly unless he knows the exact meaning of the words he is using. A dictionary will not help him much, but this book will.

The other book is entitled "Cyclopædia of Practical Quotations," by J. K. Hoyt, and is just what its title says it is. In its 1,000 pages will be found the most pungent quotations from writers of all ages and countries, arranged so systematically and indexed so perfectly that any one of them can be got at in a few seconds.

Both are published by the Funk & Wagnalls Company, New York.

The first catalogue of the season to reach our desk is the "Premo," issued by the Rochester Optical Company. It is on the lines of last year and is, if that were possible, even more beautifully got up. In its pages will be found descriptions of a varied series of cameras, all of which we know to be good, and some one of which is bound to be just the camera any particular individual wants. The illustrations, paper and presswork are very fine. A copy can be had free on application to the Rochester Optical Company, Rochester, New York.

The Photo-Materials Company, Rochester, New York, announce that they have purchased the business of Mr. J. G. Palmer, successor to Palmer & Croughton, Rochester, and that they will continue to furnish their gelatin printing-out papers, "Special" and "Kelat," and also "X-Ray," a development-process paper, in two grades — enameled and matt.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL,
Published Monthly.

Yearly subscription, $1.00, in advance; single copies, 10 cents.

All remittances should be sent by post office money order, draft or registered letter to the order of THE PHOTO-BEACON COMPANY.

Unless otherwise directed, subscriptions will commence with the number issued during the month of receipt of subscription order.

Accepted literary articles will be paid for upon publication.

Secretaries of photographic societies are requested to favor with brief reports of their meetings.

Subscribers advertising secondhand apparatus for sale or exchange, special articles wanted, help or situations wanted, *one insertion free.*

To insure insertion in any particular number, copy for advertisements must be received not later than the 20th of the month preceding.

All communications relating to THE PHOTO-BEACON should be addressed to

THE PHOTO-BEACON COMPANY,
TRIBUNE BUILDING,
CHICAGO, ILLINOIS.
Eastern Office: 79 Nassau Street, New York.

photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

Now, will our readers tuck in during 1899 and keep us busy? We have tried to introduce as much variety into our list as possible, so that everybody can find a place to come in somewhere, and we expect shoals of pictures to arrive every month.

To enter for any competition, all that is necessary is to send a print, properly mounted; and on the mount, either back or front, the sender must write his name and address, and on the package write "competition." The judging is done by three gentlemen, two of whom are artists and one an amateur photographer. One of the artists is himself a first-rate photographer. The editor never sees a print until the awards are made, so he never loses sleep when anyone kicks about the decisions.

The prizes are:

First — A complete set of our own publications.

Second — H. P. Robinson's "Pictorial Effect in Photography."

Third — "Amateur Portraiture at Home."

In lieu of the above prizes the winners may select an amount of equal value from our catalogue.

LITERARY COMPETITION NO. II.

Our troubles were great in trying to settle the prize winners in the first competition, but they were more so in the second, for out of about forty papers sent in seventy-five per cent made the tray the same way. But some of the papers entered more fully into details than did others, and ultimately the first prize was awarded to the only gentleman who showed two methods of fitting the oilcloth in the corners. For our own part our preference has always been for the second method he describes, as being less liable to catch and retain dirt.

In all, four prizes were awarded, and each article describes a different method of making a tray, so that our readers will have quite a choice when the series has been published.

The prize winners are:

First. — F. A. Free, 1506 Brady, Davenport, Iowa.

Second. — W. Marshall, 245 South Porter, Elgin, Illinois.

Third. — James E. Taggart, Lewis Center, Ohio.

Extra. — Miss Mary E. Fleury, corner North and Washington avenues, Danville, Illinois.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 3.—How to prepare a stock developing solution. No detail is too trivial for notice. Closes May 15.

No. 4.—How to get glossy prints by squeegeeing on glass or ferrotype, and how to mount the prints to retain the gloss. Closes June 15.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

No. 7.—Copying photographs.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to THE PHOTO-BEACON.

HOW TO MAKE A TONING TRAY CHEAPLY.

FIRST PRIZE ARTICLE.

I have yet to meet the photographer who does not know how to make a toning tray, and I have not yet found one who did not have great doubts as to whether his could be beaten. I do not think I am an exception to this rule. By a toning tray I understand a washing tray, or a tray that may be even used for a developing tray (of course not the same tray for all three operations). To make a tray that combines simplicity and durability, and at the same time is inexpensive, proceed as follows: Select a pine box — I take an ordinary 18 by 22 inch box usually used for shipping photo supplies, and which is generally 6 inches deep. I saw this in half, making two trays 18 by 22 by 3 inches deep. These boxes are generally rough inside, though of course a box that is made of planed lumber inside and out is better, but the former will answer the purpose quite well. Get a piece of rubber cloth (not oilcloth), which may be bought at any first-class dry goods store for about 20 or 25 cents. It is a cream-colored rubber-coated cloth and will not crack, is very durable, and in a tray with reasonable use will last for years. Get it large enough to lap over the tray about one or two inches all around when pressed or fitted inside. Now you have your box and rubber cloth. Next get 5 cents' worth of asphaltum varnish, or to be sure to have enough, you might invest a dime. This depends on the size of your tray; I am estimating on one 18 by 22 inches by 3 inches in depth. You ought to get a pint for 10 cents. It can be bought at any tin shop or drug store that handles paints and varnishes. Now get a hammer and short tacks ready — about 4-ounce tacks.

Negative by F. E. Foster, Iowa Falls, Iowa.

"DARN THAT CALF."

Do this job where the varnish will do no damage if you smear it on anything. Paint the inside of the box heavily with the varnish, or better yet, pour it in and take an old cabinet card and smear it thickly all over the bottom and sides. Take your rubber cloth and press it, cloth side down, into the varnish, being careful to get it centered. Rub it down smooth and it will stick to the bottom nice and flat. Do not stretch the cloth in rubbing it down or you cannot make a smooth job.

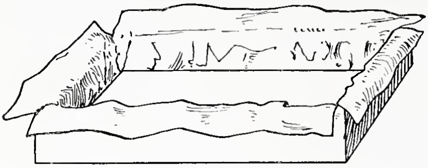


Fig 1.

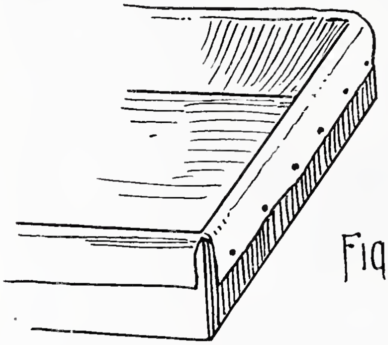


Fig. 2.

Now get a clean cabinet card and press the rubber into the ends of the tray and always fix the ends first. Draw the cloth up and cut into the edge so you can lap over the end of the tray thus (Fig. 1), and tack temporarily, not driving tack away in. The end will look like Fig. 2. Now you have the ends smooth and stuck fast if your varnish was not too dry. If you cannot lap the ends before the varnish dries, repaint and then press down. The cloth should be stuck in smooth contact all around inside.

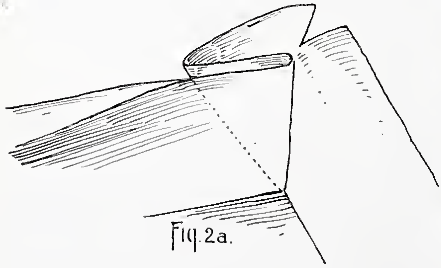


Fig. 2a.

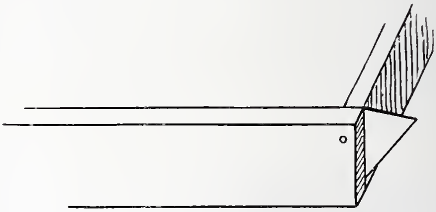


Fig. 3.

Now you have to fix the sides and corners, and here comes the rub; yet a corner is simple when you know how. It must be smooth and not catch dirt.

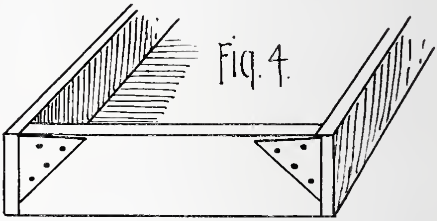


Fig. 4.

Draw the side smooth until you get to the corner and then lap the cloth under, sticking it fast (Fig. 2*a*). Treat each corner in the same manner. If you fold the cloth right you will have three thicknesses and the fold will be under, so all is smooth and you can lap over the cloth on the outside and tack it. The joint or crease in the cloth will be in the very corner.

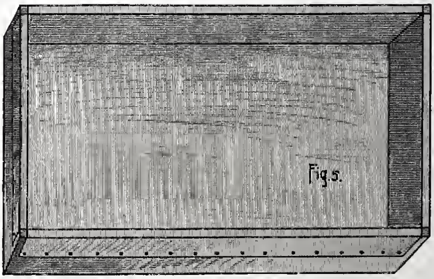


Fig. 5.

Another way to make a corner is to build up the tray and keep the ends out, drawing the cloth through and nailing on the ends after the corners have been drawn through (see Fig. 3), then tack all around (Fig. 4).

My tray when done (i. e., folding the corner inside it) will look like Fig. 5. Now paint the tray on the outside with asphaltum and you have a smooth waterproof tray that you will be proud of, and it will last for years. The reason of using asphaltum to glue the rubber cloth in the tray is obvious. It is waterproof and water will not soak it loose like glue or paste. No gallery should be without this cheap, useful varnish, which is good for a thousand-and-one purposes. Total cost of tray, 35 cents without the box.

Davenport, Iowa. F. A. Free.

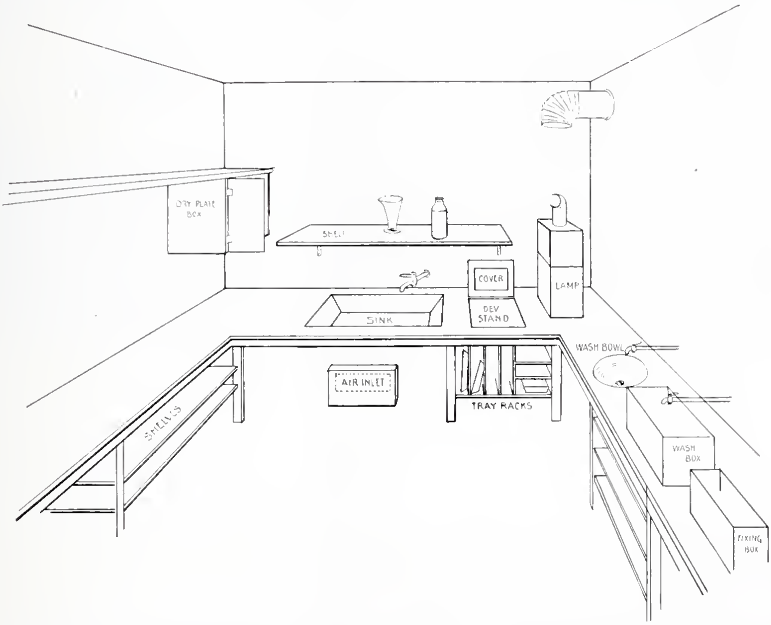
A COMBINATION DAYLIGHT AND FLASH-LIGHT PICTURE.

Regarding the picture on page 153, Mr. Merriam says: "The picture was taken by a combination of daylight and flash light. I used a small diaphragm, about *f*32, and exposed it to the daylight not more than two seconds, set off the flash, and instantly closed the lens."

HOW TO MAKE A DARKROOM IN A BASEMENT.

SECOND PRIZE ARTICLE.

In planning the construction of a darkroom in a basement, we will suppose that the basement is unfinished and has a dirt floor and a rough joist ceiling. Select a site near a ventilating shaft or smoke flue, if possible. Level the dirt floor and construct a floor for the darkroom as follows: For an 8 by 10 foot room, cut nine pieces of 2 by 4 inch scantling, 7 feet 8 inches long; arrange these 15 inches from center to center. Take two pieces of scantling 10 feet long, spike these to the ends of the shorter pieces, making a framework 8 by 10 feet in size. Cover this with a good quality of matched flooring, trimming the ends and sides even with the framework. Now spike scantling to the joists overhead, making a frame 8 feet 1¾ inches by 10 feet 1¾ inches inside. Directly above the floor, construct the side walls of a cheap quality of matched flooring, nailing it to the frame above from the inside, and to the floor below outside, leaving an opening 2 feet 10 inches wide and 6 feet 6 inches high for a door in one of the 10-foot sides.



Strips can be nailed around the room on the outside about three feet from the floor, if the top and bottom nailing is not considered sufficient. Now cover the ceiling and sides (inside) with red plastering board, or red rope building paper of a heavy quality, lapping the joints about two inches, tacking it on neat and smooth. It can be tacked to the joists above, or the top can be ceiled like the sides and the paper tacked on this, as preferred. Be sure and have all joints neat and smooth and light-tight. Nail 3-inch battens over the paper around the door opening, having them project in the opening about one inch for the door to butt against. The door can be made of flooring, putting the battens on the outside, and covering the inside with paper. Hang the door with 6-inch strapped hinges; door to open to the outside. Put on a suitable lock or latch, but put it on in such a way that no openings are left for the light to get in.

Along the 10-foot side, in the room, construct a shelf or table at a convenient height from the floor, making it about two feet wide. It can be made of the matched floorings, selecting some of the best. Make the table true and level; the ends can be supported by strips nailed to the end walls and the center by the framework of tray rack, as shown in the sketch. Cut an opening near the center for a galvanized iron sink—about 20 by 40 inches will be large enough — and let in the sink, making the edges flush with the top of the table. In the left-hand corner, at a convenient height above the table, fasten a dry-plate box, box to be large enough to take the largest plate used. Have this box perfectly light-tight. Line it with black velvet or felt, and have door fitted with a spring so as to keep it closed. To the right of the sink have a platform for developing. Have this fitted with a cover something like an inverted tray. The cover when down should fit the platform, making a light-tight joint. It should be hinged to the platform at the back, so that when not in use the cover can be thrown back. The size should be large enough to take the largest tray used. This arrangement is handy to slow development, as you can let down the cover over the tray, and all is secure from dust and light. Have lamp in the right-hand corner, and directly above it put an inverted stove-pipe elbow — 6-inch will do. Connect the pipe from this with the ventilating shaft or smoke flue, which will carry off the lamp fumes, keeping the room cool in summer and at the same time ventilating it.

On the right have hypo table. This may be about two feet wide and reach across the room. Let wash basin in flush at the left end, and place tray racks and shelves below for trays, hypo, etc., as shown. In left side of room have table for drying racks, plateholders, etc., with shelves below and above. These can be arranged to suit individual ideas and as most convenient.

Run water-supply pipe on outside of room, with pipes through the walls and terminating in taps above the sink, wash basin and washing box. The pipe may be ½-inch galvanized; this you can have cut and threaded to order, and by screwing it together you can save the expense of a plumber. The sink and wash basin can be connected with drain or sewer by a 1¼-inch galvanized iron pipe. Put a good tight barrel on a stand outside of the room a little higher than the highest tap. Connect the supply pipe with this barrel about two inches from the bottom. This can be filled from the waterworks supply or otherwise; the water in the barrel is at rest, and impurities will settle to the bottom, or it can be clarified if necessary.

Cut 6 by 8 inch air inlet under one of the tables near the floor; cover it so as to let in air but keep out the light. A small shelf above the sink is for developing solutions.

Cover the tables and shelves with white enameled cloth. Keep a supply of old newspapers; use these on the hypo table under the fixing box and trays, renewing them frequently. This will keep the hypo dust out of the room and help to keep your negatives free from pin holes.

Size of darkroom can be altered to suit location, but do not make it too

Negative by J. E. Mock, Rochester, N. Y.

small. Have large lamp with large openings, well protected with suitable glass and curtains, so as to get plenty of light, but be sure and have it safe.

James Slack.

New Knoxville, Ohio.

HINTS ON RENOVATING CAMERAS.

Renovating Hand Camera.— The following procedure is suitable for improving the general appearance of a leather-covered hand camera: Apply with a bit of flannel a few drops of ordinary furniture cream, and rub lightly in all directions. Failing this, a bit of beeswax, the size of a hazelnut, dissolved in a couple of ounces of turpentine, may be applied in the same way.

Restoring Scratched or Torn Leather of Hand Camera.— If there are any hanging bits of the leather, these should first be fastened down into their places neatly and smoothly, using a "touch" of fish glue for the purpose. When quite dry, apply the following mixture to reblack any scratched or worn places: Beat up the white of an egg with, say, ten to twenty drops of ammonia until all stringiness is gone. Then with a thin table knife and the back of a dinner plate mix aniline black with the liquid albumen until you get an inky black mixture, and apply a thin coating with a brush—avoiding any excess.

Black Varnish for Leather.— The following mixture is a favorite with many leather workers, and is strongly recommended: In 400 parts of (good quality) methylated spirit dissolve 15 parts of powdered shellac. Then add 5 parts sandarac, and also 1 part mastic, and, finally, 10 parts venice turpentine. When solution is complete, which is materially hastened by frequent shaking, and placing the containing bottle in a moderately warm place, then allow any sediment to subside, and add lampblack, or preferably aniline black, until the varnish is sufficiently dark. The mixture keeps well, and may, if needed, be diluted by adding more spirit.

BLACKING MIXTURE FOR LEATHER.— The following mixture is a favorite on the Continent, and is often used for blackening leather-covered cameras: Glue 16 parts, gum arabic 8 parts, isinglass 1 part, vinegar 160 parts, ink 32 parts, water 20. The mixture is made in the following way: The glue, broken up into small pieces, is soaked in the vinegar until quite soft, and then dissolved by gently warming. The isinglass is put in another vessel just well covered with water, and set in a warm place until dissolved. The gum arabic, finely powdered, is dissolved in the remainder of the water. The three fluids are then well mixed, and finally the ink added.

PRIMING FOR LEATHER COVERINGS.— If the leather covering is required to last a long time and keep waterproof, it is highly desirable to fill up the pores or holes of the leather. A little French polish, well rubbed into the leather by the aid of a short, stiff bristle brush, will be found effective. It is much better to give the leather two thin coats than one thicker one. Should this treatment produce uneven or rough patches, the probability is that they will quite disappear on drying. But should this not be the case, a second thin coating of polish will set matters right.

TO CLEAN LEATHER WORK.— The simplest and most direct method is to invest in a small cake of saddlers' soap. Avoid wetting the leather as far as possible, and follow the soaping by a good polishing with castor oil applied with a soft rag.

SOFTENING LEATHER BELLOWS, ETC.— It not unfrequently happens that the leather bellows of a camera which has been stowed away or kept in a warm, dry place for any length of time, becomes quite hard, and very liable to crack. Remove as much dust and dirt as possible, and then apply a thin coating of castor oil. Repeat the oiling process from day to day until the leather becomes again soft and pliant, but avoid using force to separate the folds, or damage is very apt to ensue. When stowing away a leather bellows for any length of time the inside should be thoroughly dusted out and the outside rubbed over with a few drops of castor oil.

A JACKASTROPHE.

Constable Bernstein arrested today on the charge of vagrancy one Sam Adams. Sam's offense was that of presenting to the gullible public a photographic process that is, or at least is claimed by Sam to be, unique. All Sam asked of those he approached was to buy his instantaneous process, pay for it, and then look pretty at the glass. Then the next step was to blow gently on the glass. The result of the blast from the breath would materialize in a beautiful photograph of the person who blew. Constable Bernstein, who is always up to the disturbance of the easy jobs of the fellows who are out to assist the people in a way that is a little off color, interfered in the game. He ruthlessly arrested the man and took his photographic majesty before Justice Randall. On entering the presence of one of the most just of justices, Sam was in the best of condition. He told the Justice that although he had been arrested on the disgraceful crime of being a vag, he was the proprietor of a strictly legitimate business, he said. He had a photographic process that was all right, and offered to demonstrate it to the Judge. He produced the plate and told the Judge to gently blow upon the surface of the plate and the substance if not the picture would appear. The honest guardian of the public good tried the process. It worked. The Judge blew, and he blew gently. A beautiful picture of a jackass appeared on the glass. That was enough for the Justice. He was ready to pronounce a verdict. It was that Sam Adams be incarcerated in the county jail for the period of twenty days. Sam is in durance vile.—*Sentinel, Hanford, California.*

"Amateur Portraiture at Home." Just the book for beginners. Price, 50 cents.

BACKGROUNDS, MOUNTS AND FRAMES.

(Read before the Photographic Society of Philadelphia.)

In speaking to this audience on this general subject, I can only serve as a sort of human mirror, reflecting to you what most of you already know. As the very best mirrors reflect only a portion of the light they receive — and I can hardly class myself as equal to the best French plate — there need be no surprise at the weakness of the image presented to you. I may expect only to put in a concrete form a little of the lore of which the display on the walls gives the fullest evidence, and possibly to set forth some principles.

As we must make a picture before we frame it, the subject of backgrounds comes at once into the foreground. It readily divides itself into two classes — natural and artificial. Let us look first at the former.

Theoretically, nature always provides a perfect background for any natural picture. The broad expanse of a landscape, the rich color values of a sunset, the delicate tracery of winter-dressed trees, the flash of a scarlet flower against its mass of green foliage, need no assistance. The picture is there, can we but find it. It is when we begin to twist nature to our own ideals that the background becomes of importance. Of how much importance, let the impious professional "artist," who poses the peanut-eating tourist of a day, with his "Mariar" held tightly by the hand, against the majesty of Niagara as a background, tell! It is important to him, sure enough; and his efforts are apt to cause a sincere regret that his tintype machine is not a back-action dynamite bomb, warranted to destroy both ways at once.

Negative by H. K. Burr, Florence, Mass.

But the thing for the photographer to consider first, in using a natural background, after he has selected or composed his picture, is the matter of contrast. If his effort is being expended on a group of people outdoors, he must decide whether he will have the group major or minor — whether it will contrast with and dominate the composition, or whether it shall harmonize with the natural surroundings, seeming an incident of the time and place. The latter form is the most satisfying when well accomplished, and certainly much the more difficult of accomplishment. But either one or the other form must be resolved upon — a medium course is mostly well on the way to a mess.

Contrast in backgrounds is easily accomplished, especially in these days of wide-angle, fixed-focus hand-camera lenses. Witness your fisherman friend, whose tremendous catch, held directly toward the lens, hasn't lost anything of apparent size because compared with the human background.

Contrast, however, properly managed, is most desirable. To pose the group so that a clump of dark foliage is back of it, or again, to have the salient figure of a composition so that a cloudy sky gives it life, is very satisfactory. But my talk must not trench too much upon the deeps of the subject of composition. Let me but briefly call attention to the harmony of green fields, of broad lawns, of wind-swept meadows, as backgrounds for any artistically arranged outdoor picture. The medium tones, photographically, of sward, lawn or leaf-strewn surface, blend most delightfully.

For superb contrasts, take account of the background effects of solid masses of green foliage. It is Alfred Stieglitz, I think, who has so successfully used foliage-masses in outdoor portraiture. Much study may profitably be given to this branch of our art.

In passing from the consideration of outdoor, or purely natural background effects, I want only to drop one word of technical warning against the use of too small stops in landscape work. I recently saw a photograph printed as an advertisement of a modern lens, which showed microscopic definition all through. There was no background — it was all foreground, and the mountains in what was intended to be distance seemed to be cut out of tin like a pie crimper. I am not in love with fuzzy impressionism, but there are extremes in the other direction.

The artificial backgrounds are likely to be far more troublesome. Years ago they were easy, apparently, as anyone may see in looking over old studio photographs. All that was necessary was to bring Mr. Reuben Hayseed, who wanted his picture took, into the gallery, pose him against a Louis XIV. chair, with a large red hand carefully spread out, his rotund face solemnly staring into the camera, and a fine marble staircase fading away into the background, showing, of course, the perfectly accustomed surroundings of our rural friend; and the thing was done!

Nowadays, the portrait professional has a most perfectly appointed studio, with various artistic backgrounds, which some of him know how to use. With his work we need not concern ourselves, but rather with what we can do in such work as the amateur undertakes.

It may be enunciated almost as a cardinal principle in seeking backgrounds for portraits or any other photographic work of an artistic, not technical nature, that extremes are to be avoided. A pure white sheet and a flat black surface are equally objectionable, though both may serve the purpose of the artist who understands alike their value and their danger. Indeed, there may be this one thing concerning the whole subject of backgrounds, mounts and frames, taken as a primary fact — that the photographer must decide between harmony and contrast. There is always harmony in a well-managed contrast; but the difficulty of obtaining it indoors points the amateur to the wisdom of working first along the easier and scarcely less charming path of color harmony without violent contrasts, until he may deem himself ready to take up the masterly methods of a Rembrandt.

For our familiar photographic work, then, we want background materials. With the principle of color harmony before us, and the not less important thought that the background must remain a subsidiary feature, we can always work with reasonable certainty. I remember a sharp reminder I had some years ago, when a portrait was attempted in a hotel room, without considering the wall paper. When the negative was developed, the lurid display on the wall fairly swallowed the sitter!

In arranging for a home group of the children at play, for instance, the main care as to background must be to avoid the hard lines not only of windows but of varnished doors and furniture. In this case we want familiar surroundings, but we don't want a picture of a door with human accessories.

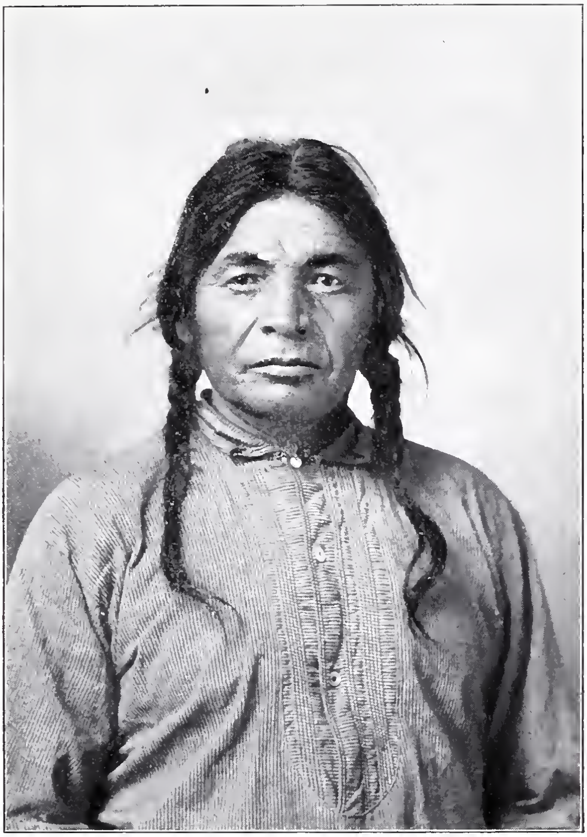
Simplicity is also of the utmost importance. Photograph something, but not everything; don't let your background smell of the "junk shop" or seem to be a mere gathering of bric-a-brac.

For the work indoors, or with artificial backgrounds, a study of the color value of various materials will be exceedingly useful. Make a negative of pieces of all the cloths or papers you want to consider, from black velvet to a white sheet, and notice the various gradations.

Take account, also, of the lighting of your background. A pure white surface may be so managed as to show a gradation of shades, and a black cloth will reflect a surprising amount of light. Glossy surfaces are hard to manage, but capable of fine effects when under control. Again, remember the importance of depth, or "atmosphere," and don't have microscopic sharpness in the background.

Passing now from the consideration of the details incident to the making of a picture, we come to its after-treatment in mounting and framing. It is hardly necessary to say that the sole object of the mount and frame should be to bring out the salient points of the picture. Neither should be conspicuous, or in the least detract from whatever attention the picture deserves. Everyone present can call to mind, however, numerous instances in which the contrary is the case. While it may often be assumed that if the frame or mount is more conspicuous than the picture, the latter is not worth bothering with, there are too many instances wherein a badly chosen mount or frame has spoiled a really fine photograph or painting, to make the assumption a rule.

In no part of the photographer's work is it more important that the underlying principles be understood than in this. At the risk of challenge, I shall attempt



Negative by J. Borry, Thief River Falls, Minn.

MAH-KAH-KEE.

(FROG.)

to reiterate the vital principle governing the whole matter of mounting and framing, which, when fully grasped, renders easy the proper handling of what has been difficult to many of us. It is simply this: there must be either color *harmony* or well-balanced complementary color *contrast* between the picture and its mount and frame.

Happy is he who can safely and successfully arrange contrasting colors, and who is able to decide just the amount of complementary shade his picture will balance in the frame or mount! As for me, while I have once or twice stumbled into a good result in contrasts, I breathe far more freely on the safe ground of color harmony, and will be satisfied to work up through to the higher knowledge. Though it may be well to hitch your wagon to a star, the axles will be far less liable to screech as you get along if they are lubricated with the oil of patient endeavor and intelligent, progressive practice.

Why does a platinum print look well with a Rembrandt mount? Why did black oak frames at the Salon seem just the very best setting for little gems of black-and-white? Simply because in both cases perfect harmony exists between the picture and its immediate environment. Look at any sepia or brown photograph on a white mount, and you see a lack of harmony. Call to mind the lovely $1.49 department store crayon enlargement of a cabinet photograph, in its gorgeous gilt $3.98 frame, and the very antithesis of the right thing is before you. Any black-and-white picture is damaged by a gilt frame, because there is no harmony and no correct contrast. If you must use shiny metal, a little silver line will not hurt the platinum or Velox print, simply because it is relatively *white*, and thus in harmony.

Following this principle to its application, we see many delightful opportunities. Do you print with Velox, and will the bromide turn your blacks greenish brown? Don't scold; get a deep olive mat, and a frame with a dash of green, and you have enhanced the beauty of your picture. So, also, with other photographic tones — if they are matched in the tones and colors of the mat and frame, the result is almost certain to be pleasing.

In passing, let me suggest for consideration a new frame material, which I thought was an original scheme of my own until I found some one else had also originated it. It is simply book cloth, such as you see on the modern publications, and which comes in a great variety of shades and textures. It may be covered over wood, but I have had much interest in evolving frames made of binders' board, or tarboard, covered with this cloth. The frame is flat, of course, and therein lies a merit; for its wide surface affords an excellent surface for what might be termed extra illustration. A dainty sketch in one corner, in a harmonious tone, of course; or a twig of foliage in outline — and there results an individual frame, carrying out the real thought of the artist as to the picture and its environment. These frames may be made by anyone who has patience, glue, and some ingenuity, and are by no means expensive.

So far I have thought and spoken mostly of the mounts and frames for photographic work. A concluding moment may touch upon the handling of water colors and other art mediums. There is no change of principle here — it is harmony that gives the most agreeable results, unless you may hit upon proper contrast. The prevailing tint of the picture must govern or complement the frame and mount. I have a delightful little reproduction of one of F. Hopkinson's Smith's water colors of Venice. It is green water, blue sky, and a dash of high color in the garments of the figures. I chanced upon a dark olive mat, and a deep green oak frame, and the whole thing became harmonious. I had hit the complementary contrast; and, observe, there was no gold used, either in mount or frame. This substantially upset a dictum I had been given some years ago in New York, that "water colors must *always* have gold mats."

Again, I have a De Longpré pæony bit — a riot of reds and pinks, done with his inimitable grasp of nature. I dared not try contrast, so the frame is one of flat binders' board, covered with deep red book cloth. In the slang phrase of the day, "It's all right!"

But it is unnecessary to detail practice. The one principle which is about the only grain of wheat in all this chaff, is that repeatedly stated — that harmony between picture, mat and frame must prevail, either by shades of the same color, or by skillful contrast. This principle is so simple that anyone may grasp it, and use it, and yet forty out of fifty photographers, and ninety nine out of a hundred makers of picture frames, neither know nor practice this fundamental principle; or else they use it unconsciously, and thus ineffectively and uncomfortably.

J. Horace McFarland.

COPYING OIL PAINTINGS.

, Oil paintings come under the category of objects difficult to reproduce. By the use of orthochromatic plates a great stride forward has been taken. However, independent of the sensitive plate, the placing of the original is often very troublesome if all reflection is to be avoided..

Where the exposure has to be made in a north-fronting glass house with sky and side lights, it is advisable to draw all the roof and side curtains, and place the painting against the south wall. The roof curtains on either side of the painting may be then gradually drawn until the painting is evenly illuminated, but not so far as to cause reflections.

Negative by Edward J. Merriam, New York.

COMBINATION DAYLIGHT AND FLASH-LIGHT EXPOSURE.

Anyone who has no studio (glass house) at his disposal, which can be inclosed with curtains, does better to attempt the exposure in an ordinary room. The best illumination is a subdued light, such as that in which all oil paintings are viewed to best advantage.

After focusing sharply, the light can be diffused by the simple use of thin muslin.

Anyone who frequently has oil paintings to copy soon settles down to a regular routine: firstly, to see that the canvas is tightly stretched on the frame. Oil paintings are frequently loose on the frame, and the canvas shows strong folds which extend toward the center; this evil can often be remedied by driving up the wedges in the corners, which tends to tighten the canvas. When the evil is too great it becomes necessary to carefully remove the canvas from the frame without injuring it, and then stretch it anew.

By no means neglect to cleanse all old oil paintings prior to attempting a reproduction.

This is best done in the following manner. After the original is well dusted, wash it off with a clean sponge, using soft (rain) water, until the sponge when squeezed only gives clear water. Then dip the sponge in the following solution and rub over the painting:

White of two eggs beaten and cleared.

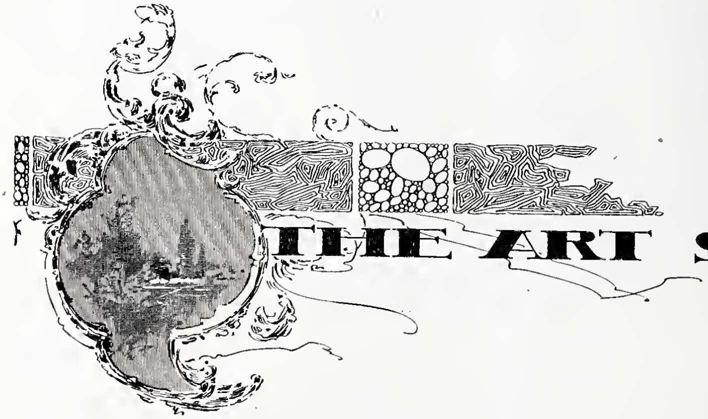
Water	½ liter
Glycerin	1 tablespoonful

The albumen in this solution acts first as a kind of varnish, in addition to bringing out the deepest shadows with extraordinary clearness.

The glycerin is added for the purpose of keeping the surface moist, so that the albumen does not dry in spots, which would then appear dull and prove of injury to the reproduction.

Another matter not to be overlooked in the reproduction of oil paintings is the fact that the linseed oil contained in the colors soon starts an action which causes even the lightest part of the painting to become more or less non-actinic. It is best, therefore, to rather over-expose, and develop with an old developer, until the operator is satisfied that the plate is not absolutely over-exposed.

When ordinary dry plates are used strong contrasts are apt to appear, which may be equalized with the matt-varnish on the back and a corresponding local reduction of the negative film.—*Photographisches Wochenblatt.*



THE ART SIDE.

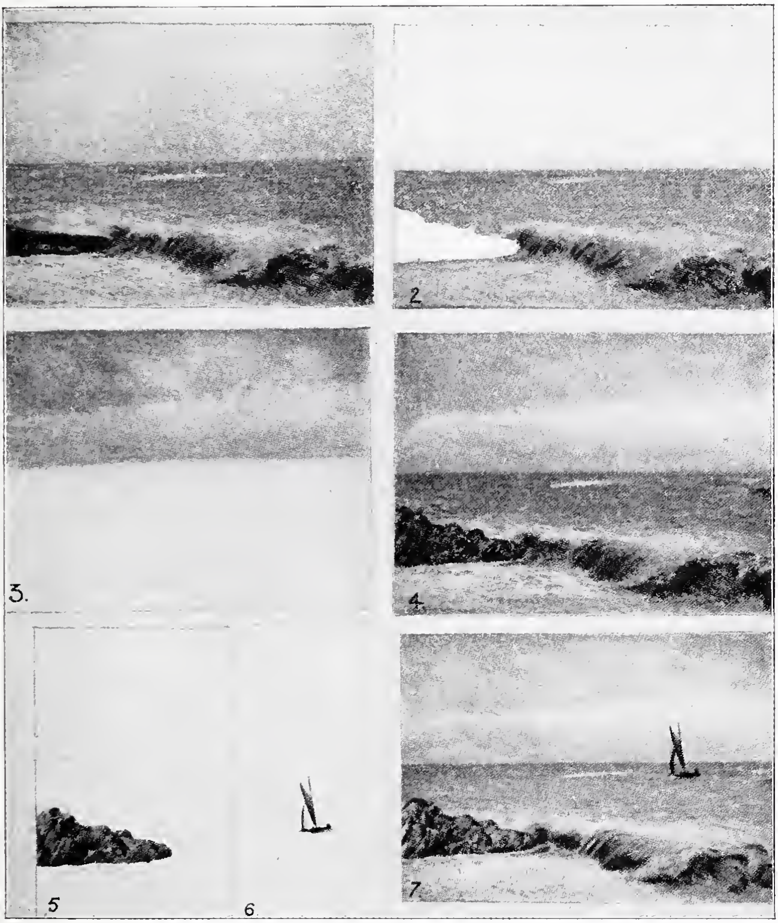
A COMPOSITE SUBJECT.

Since the advent of hand-camera work, with improved plates and developers, combination printing has not been used to quite the extent that it once was. Nevertheless, there are times when one likes to indulge in the making up of composite subjects, or the substituting of part of a subject by something else more suitable; the printing in of skies, or foregrounds; and so as to attain the necessary result, one has to have recourse to combination printing, that is, printing from two or more negatives.

I do not propose to advocate or condemn the use of combination printing as a means of producing pictures, but hope that by explaining how pictures can be made by such means, those who do not know the means generally employed may obtain sufficient information to justify their trying their skill in that particular branch of photography.

Nearly every worker has his pet

method of combination printing, therefore it is evident that there is no hard and fast rule to follow. That being the case I will confine my remarks not so much as to how it should be done, but to give the *modus operandi* that was employed to produce the transformation of the subject represented in Fig. 1, to that in Fig. 8. Whether by such transformation the subject has been improved or not, must be a matter left to each individual opinion.



A COMPOSITE PICTURE.

To those who are always desirous of knowing the exact locality of a view or subject, I may as well inform them that Fig. 1 was taken at Brighton, but as to the locality of Fig. 8, I must refrain from mentioning it for obvious reasons, since it is composed of five portions from different parts of the United Kingdom. The sea, sky, rock and the two boats are from different negatives.

On looking at Fig. 2, it will at once be evident that the sky and the masonry are blocked out, so as to permit of a different sky being substituted, and a rock to take the place of the somewhat inartistic groyne.

To begin with, it is as well to varnish any negative that is to be partly blocked out, for although it can be done on the film side and afterward washed off without injury, by using india ink that you prepare in the usual way, or, better still, by using the newly made compound, Photopake, it is, nevertheless, as well to be on the safe side when dealing with valuable negatives.

When the object required is to have a sharply defined outline, it will be blocked out on the film side; but when, on the other hand, it is wanted with a soft or vignetted edge, it will be blocked out on the glass side. On looking at Fig. 2 it will be noticed that the horizon is kept soft, and that part of the original sky is preserved, but very faintly. This is obtained by fixing a piece of tissue paper on the glass side, so that the straight edge would coincide with the line of the horizon, and upon this tissue paper, by means of a stump, or with a brush and color, the sky was gradually vignetted off into white, the upper portion being protected by opaque paper. The object of keeping the sky of the first print as white as possible is to avoid veiling any high light that may happen to be in the sky that is to be substituted. A similar operation was applied to the sky negative (Fig. 3) to produce a somewhat soft horizon line, which when printed to slightly overlap the horizon line of the former, gave the sea and sky as in Fig. 4.

In doing this all that is necessary is to make a couple of pencil marks on the back of the print where the horizon of the sky commences to vignette off, which will enable you to see exactly to what extent you wish the sky to overlap the horizon of the other. Needless to add that the printing is best done in a good subdued light, with the position of the frame occasionally changed to insure soft edges. If these have been obtained the overlapping will not assert itself sufficiently to be observable.

The substitution of the rock for the groyne was rather a more troublesome operation. Having found from another negative a suitable piece of rock, the groyne was accordingly blocked out on the film side, preserving the base line represented by the surf of the wave. A few dabs of color were also applied to break up the upper straight line of the groyne, but keeping well within the limit of the outline of the work to be substituted, and so that the sea would, to a slight extent, be overlapped by the printing in of the rock. The upper outline of the rock was blocked out on its negative, and to secure an identical outline to the base of the groyne a print was taken from the negative, where it was blocked out, and that portion carefully cut out, including the base, and sufficient of it above as would be necessary to include the rock. The print is allowed to darken in daylight, after which it is fixed, face downward, over that portion of the negative containing the work, so that the opening will include just the amount required. The base line is formed by the edge of the cut-out print, and the upper outline of the rock is furnished by being blocked out on its negative; all that is necessary then will be to place your print in register with the one fixed down, then you will have the rock print in its proper place; but to insure this all the prints must be printed with the same register. In this case the prints from the five negatives were all printed with the negative and paper registering accurately in the right-hand bottom corner of the printing frame, so that when printing in the rock, all that was necessary was to observe that the prints registered accurately with the right-hand bottom corner of the print, now acting as mask, and fixed in proper position, as previously described, on the negatives. Fig. 5 shows how the rock appears when printed by itself. In the same way Fig. 6 shows the sailing boat as printed by itself, and it will be observed that the bottom edge or waterline is soft, so as to blend better with the sea and not to cut out too hard; the blocking of that part was accordingly done on the glass side of the negative, and had the water been smooth instead of rough some slight shadow or reflection of the hull of the boat would have been necessary. In that case the amount required would have been included in the blocking out on the glass side of the negative.

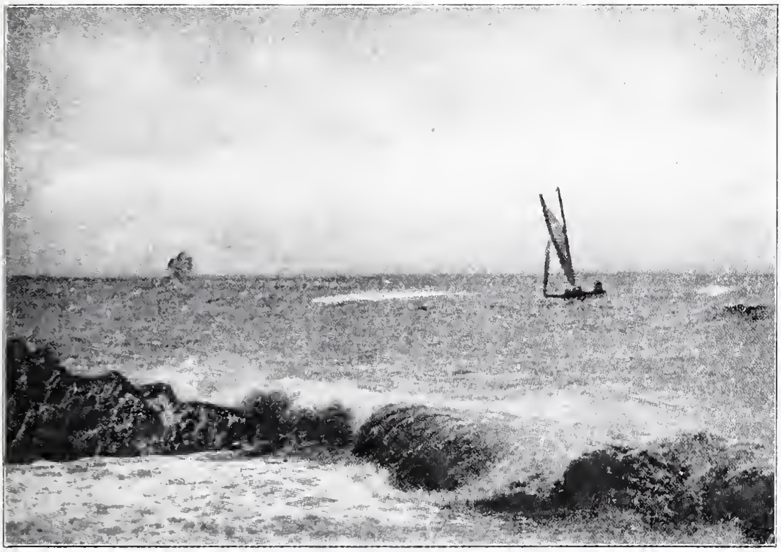
I think it is needless to add that all the portions of the picture must be in keeping with each other in respect of lighting, and especially in proper perspective. Having determined the exact position the boat should occupy, it was located by making a pencil mark at the back of the print on which the sea was printed, indicative of the position of the hull of the boat, so all that was necessary was in placing the print on the negative to see that the pencil mark coincided with the hull of the boat of the negative, by holding it up to the light.

In blocking out only a small object, such as a boat, all that is necessary is to block out about a quarter of an inch all round, the rest can be covered by opaque paper. In printing from parts of several different negatives it is advisable sometimes to use a much larger frame than the usual one for the size of the negative, and provided with a plain glass so as to be able to place the negative in such a position as to be able to examine the printing of the particular object with the least chance of shifting.

The distant ship was treated in the same way: that is, printed bodily over the picture as in the previous boat, taking care, of course, to get it in its proper place, for the whole print would appear ludicrous should it happen that the distant ship appeared just above the horizon, or too far below.

Having been fortunate in obtaining a good print on, say, a chloride paper, and squeegeed, nothing is simpler than to make an enlarged negative by copying in the camera, with the advantage that little defects can be remedied by judicious retouching, after which it can be printed by any process without further trouble.—*The Photogram.*

PAUL MARTIN.



THE FINISHED PICTURE.

ILLINOIS PHOTOGRAPHERS, ATTENTION!

The Photographers' Association of Missouri invite the photographers of Illinois to join them in their sixth annual convention, to be held in Exposition building, St. Louis, August 22, 23 and 24, 1899. A special class in the competition classes has been set apart for their use. For particulars apply to A. S. Robertson, 3518 Olive street, St. Louis, Missouri.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

VIII.

(Copyright, 1898, by F. Dundas Todd.)

Since writing the preceding chapter I have been expecting to receive a general outcry from one class of the photographic fraternity for my temerity in daring to lay down any hard and fast rule for artistic photography — a formula as it were by the "filling" of which one may have the result of a certain number of "doses of art" on tap, ready for immediate distribution. From another class I half expected an expostulation for presuming to suppose that "out-of-focus" portraits would ever "take" with their particular line of patrons. But I have been agreeably surprised that all seem to have individually agreed to pass the article without criticism, for "hard and fast" as the "formula" may be, yet I can only repeat that if the suggestions made therein are intelligently followed out there would certainly be fewer of those photographic curiosities which are represented by Fig. 50, where we see hard and fast lines around cardboard figures.

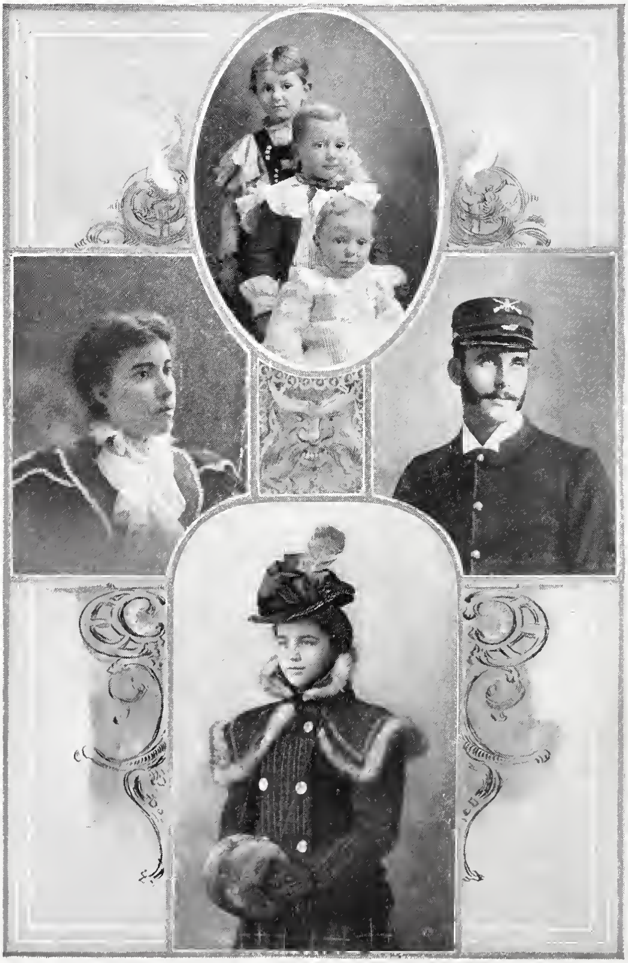


FIG. 50.

The main trouble I find is that the great number of public speakers and writers on "Art in Photography" although well qualified (no doubt) to speak or write from an artistic standpoint are yet but little acquainted with the limitations of the camera — in plain English they are not photographers, and for that reason their words do not

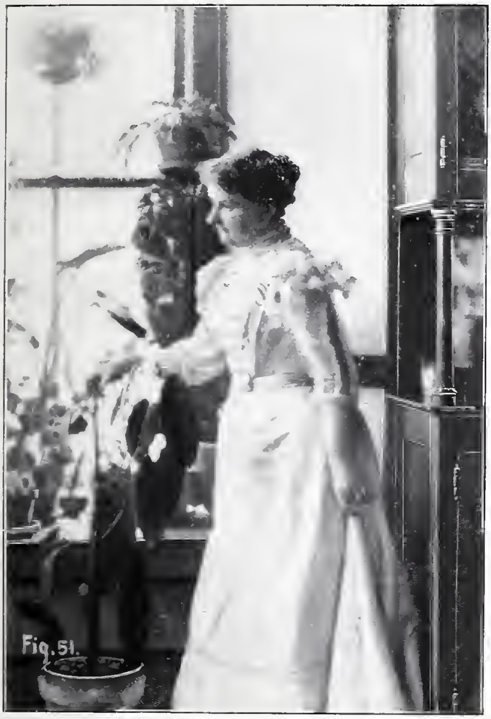


Fig. 51.

impress the "brothers of the dark art" who feel that the ideal of the writer is beyond them. The intelligent reader of the last chapter will have found out that to produce a head with a certain amount of naturalistic effect, it is not alone sufficient to rack out the camera in a sort of haphazard fashion. In Fig. 51 is shown an example of that indiscriminate out-of-focus photography, which shows considerable lack of judgment (in this there is nothing sharp or clear and the eye has no feeling of rest as we look upon the print) simply because there is nothing which attracts the eye to any one particular point.

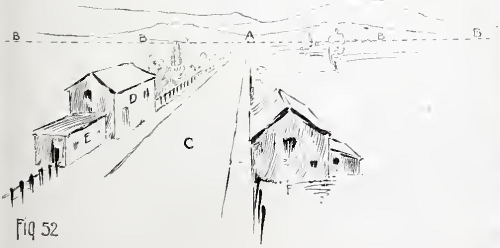


Fig 52

It may not be known to every reader that there is a perspective in the features to which we must give due heed if we desire success, and for the clearer understanding of which I ask you to go over with me one or two of the very elementary rules of perspective in drawing.

When we view a landscape with the head erect and the eyes looking straight forward, that point which appears directly in front and on a line apparently parallel with the eyes is called the "point of sight" (A, Fig. 52), and the line itself is known as the "line of sight" (B). Now, no matter how high or how low you may be, these two points are always fixed momentarily, the line of sight is always that line drawn across the picture at the height of the eyes, and the "point of sight" is always the point *on that line* which the eye observes when directed straight forward. All lines in the view which are at right angles to the line of sight converge (or appear to) toward

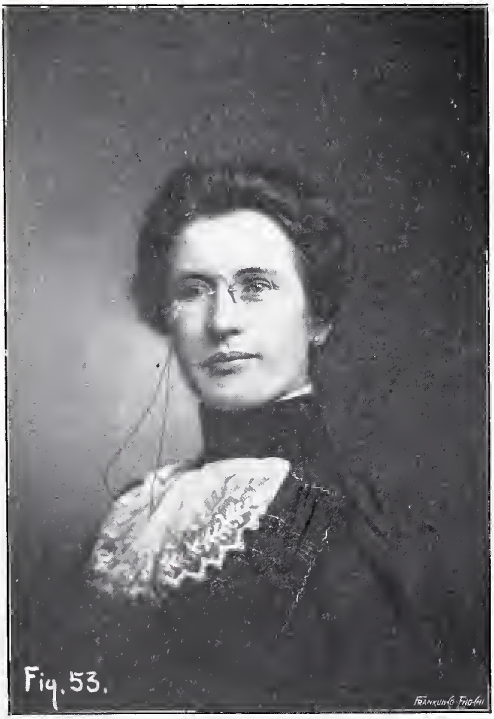

Franklin Co. Eng. Chi.

Fig. 53.

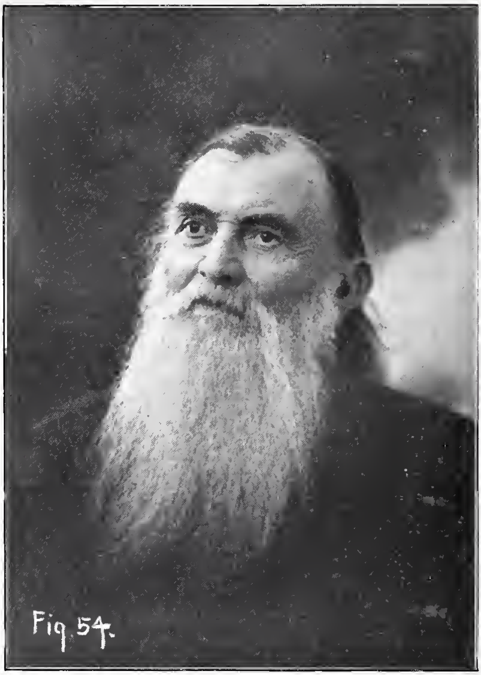


Fig. 54.

the point of sight and if continued would ultimately meet there, as in the diagram, where the road (C) and the houses on either side (D, E, F) appear to converge to the point at A, thus giving the correct effect of distance to the picture. Thus we have the rule that all parallel retiring lines vanish on the same point and that point — the point of sight. But, you ask, what has all this to do with a portrait? A great deal, as you shall presently see. Did it ever strike you there was hardly a single person who had both sides of the face the same — the one eyebrow is very often higher than the other, one side of the mouth is drawn up more than the other and sometimes even the tip of the nose is tilted over, and for a correct and truthful rendition of the features it is absolutely necessary that the lines thus formed run in the proper direction, namely, that they *converge* as they recede from the camera and never the opposite. Directing your attention to Fig. 53, you will see an example of what has been just stated, and that a line cutting through the pupils of the eyes and another through the line of the lips shows the angle running the wrong way — they do not converge as they leave the camera, but rather *diverge*. The reader may here remark that this point is "the veriest trifle," but I would impress upon you that it is the correction of trifles which makes perfection and that "perfection is no trifle"; and further, it is due to such trifles as these that we so often hear the criticism on a certain portrait as appearing "silly," "sheepish," etc. And again, in the handling of the head of an aged male figure, when there is a good heavy beard we very often see a representation like Fig. 54 (where it resembles nothing so much as hanging moss on a stone), when by a little care and judicious handling of the beard the lines could have been rendered strong and bold, and what would otherwise be a blank and woolly mass rendered as in Fig. 55, where not only have the lines of the hair and beard been altered but the pose itself — and the feeling of repose (which is certainly more in keeping with advanced age) is the dominant feature.

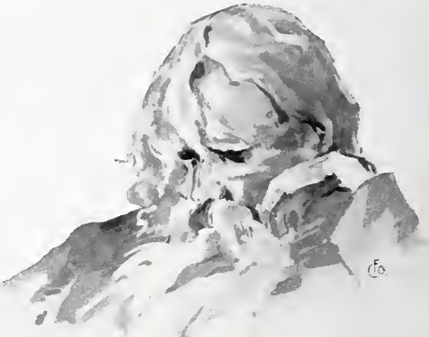


Fig. 55.

When you want a book on any special photographic subject apply to us, for we carry in stock every book published in England on photography. One hundred and fifty different titles.

THE PHOTO-BEACON CO., Chicago.

THE LANTERN.

COLORED TRANSPARENCIES BY CHEMICAL PRECIPITATION.

This plan is based on the well-known fact that bichromated gelatin, after exposure to light, completely loses the property of absorbing saline solutions. Thus, if a bichromated gelatin plate be exposed under a transparency (positive), and after careful washing with water be immersed in a saline solution of uranium nitrate, and, after a little time, removed and soaked without further washing in another solution (potassium ferrocyanide, for instance) capable of reacting on the first and giving an insoluble compound, we shall have a fine colored image with all the gradations and half-tones of the original. It is possible by this means to obtain transparencies of any color from old and fogged plates if the latter are first fixed in hypo, then thoroughly washed, and afterward immersed in a four per cent solution of bichromate of potash, and dried. The bichromated plate should be exposed to light under a *positive* (which may be even a silver print rendered transparent with vaseline). An exposure of about two minutes in strong light will suffice, if the positive be perfectly transparent, to obtain the insolubilization of the gelatin in correct proportion. After printing, the bichromated plate should be washed for a long time in running water, so as to remove all trace of color from the gelatin, even when it underwent the maximum light action. At this stage, if the plate be observed carefully, the image will be seen in relief, because the parts not touched by light absorb water and swell, while the better illuminated portions swell less, or not at all. The plate is now immersed in the first saline solution, which should never be stronger than five or ten per cent, as otherwise it would penetrate the gelatin with difficulty. In this the plate rests for about a quarter of an hour; after which it is removed, simply drained, and introduced into the second solution, destined to react on the first and give the colored precipitate. Even this solution should be rather diluted. After a few minutes the plate is removed from the second bath, and is washed well, the surface, if necessary, being rubbed to remove any precipitate therein formed. The colors are numerous, because the number of colored precipitates that we may obtain by chemical reaction is great. The following will show a few that may be advantageously employed:

First Solution.	Second Solution.	Color of the Precipitate.
Barium chloride	Sodium sulphate	White.
Uranium nitrate	Potassium ferrocyanide..	Dark red.
Cupric sulphate.....	" "	Light red.
Ferric chloride......	" "	Blue.
Cadmium chloride...	Sodium sulphide	Yellow.
Lead acetate	" "	Black.

Naturally, we should produce only those precipitates that show a certain stability. The applications of this process are numerous, and it may be substituted occasionally for carbon.—*Bull. Soc. Phot. Ital.*

PROF. R. NAMIAS.

"I HAVE the 'First Step in Photography' by F. Dundas Todd, and am delighted with it."

MISS EMMA E. TRICKETT,
Kansas City, Mo.

THE DARKROOM

REPORT ON PERSULPHATE OF AMMONIA.

(Presented by the Technical Committee of the Photographic Society of Philadelphia.)

I beg to report on behalf of the Technical Committee that samples of the persulphate of ammonium (Merck's) have been obtained, and that your committee has investigated its capabilities as a reducer.

We commenced experimenting with five per cent solutions, the strength recommended by Messrs. Lumiere & Sayewictz. This strength we found to be too rapid in its action to permit of easy control, and accordingly gradually reduced it to one per cent, which we found perfectly satisfactory. With this strength all of the specimens, except G, shown tonight, were made, and we recommend any member of the society who may try this drug to commence with weak solutions until he has become perfectly familiar with its action. We found it to be an efficient reducer, and also found the claim of its originators that it attacks the high lights in preference to the shadows fully substantiated. With this agent it is possible to bring down an opaque sky to a delicate half-tone without destroying the detail of the shadows, something quite impossible with Farmer's reducer. This remarkable mode of action, combined with cleanliness, ready solubility, ease of arresting (by sodium sulphite) at any desired point, and general simplicity make it, in the opinion of your committee, by far the best reducer ever proposed.

It must be mentioned, however, that while in all practical particulars the reducer acts exactly as is claimed for it, yet in regard to the theory of its action some modification seems to be required. It will be remembered that the reason ascribed for the greater reducing effect on the high lights is that the persulphate does not dissolve silver when an excess of the reagent is present, so that at the surface of the plate, where such excess is necessarily found, no action takes place. This means that after the deeper strata of the image have been eaten away the action will cease when the superficial layer is reached, and the entire plate will show the same density, although this final density will be very slight. In other words, when the reduction has been pushed to this extreme the plate should present a light, even, gray tone. As a matter of fact the actual result of thus pushing the reduction is that the originally less dense parts of the image disappear entirely. In support of this statement we submit plate G, which before reduction was a strong, well-developed negative. As you can all see, there is no image left except a faint trace at one end, before reduction the densest part. The plate was reduced with a five per cent solution, and from this experiment the fact becomes apparent that if the action is allowed to proceed too far any negative will rapidly become a thing of the past.

In order to reach as definite conclusions as possible, we resorted throughout to the plan of photographing a graduated screen, made by pasting successive layers of tracing paper on an 8 by 10 glass plate, the idea being that this would furnish a means of giving different parts of the negatives varying exposures with something like a constant difference, and with sharp lines of demarcation, these being the conditions most favorable to accurate comparisons. Of course the same results could have been obtained more or less perfectly by the common method of putting a plate in a holder and then drawing the slide gradually, giving an exposure for each change of position. But the former plan seemed the more convenient, especially as the consecutive strips on the negative could be automatically numbered by drawing figures on the screen once for all.

The plate marked A is the screen used. This was placed in the copying camera and negatives made from it. These were then cut into three longitudinally. One of the pieces in each case was left without further treatment, one was reduced with Farmer's solution, and one with a 1 per cent solution of persulphate. The three strips were then mounted together in the same position they had occupied before cutting the plate. You have before you the specimens so produced, lettered consecutively B to F. B is a somewhat dense negative of the screen. C is less dense. From these plates can be seen the effect of the two reducers on negatives, including all ordinary densities. D, E and F are lantern slides (also direct negatives of the screen). The reduction of the persulphate strip in slide D was pushed to far greater lengths than could ever be necessary in actual practice, yet as will be seen, the delicate tones of the plate have suffered little, if any, and are as strong as in the strip which was not acted on, while the Farmer's strip has lost these half-tones so entirely that they are represented by clear glass. In E and F the reduction was not pushed as far, yet the great superiority of the persulphate strips over the Farmer is just as marked.

The last two slides, E and F, are particularly instructive. It will be noticed that they show a distinct mottling, while this is much less clear in D. These markings are the result of insufficient washing after the hypo, and before applying the reducer, and we suggest the following as the rationale of the phenomenon. When a plate is being washed the hypo is more perfectly eliminated at some points than others, owing to variations in the thickness or imperviousness of the gelatin film. Therefore, if the plate is removed from the wash water before it is thoroughly free from the hypo, certain parts will contain more of the salt than others. But it is a fact that when hypo is brought into contact with the persulphate it becomes oxidized at the expense of the persulphate, which is reduced to ordinary sulphate, an inert body. It is evident, therefore, that where hypo is found, the reducing action will be delayed until the oxidizing process is completed, and those parts of the negative which contain little or no hypo will be reduced first. Whether this be the correct explanation or not, the fact remains that only plates which receive a short washing show the mottling, while those which were well washed in running water are free from it.

Another curious fact was noticed in the course of our work. Several negatives showed, after considerable reduction, gray streaks, which had the appearance of insufficient fixing, and which actually were due to this cause, as they were promptly removed by reimmersing the plate in hypo. Yet in each case the plate had originally been allowed to remain in the fixing bath for a considerable time after it looked clear. Apparently the lessened density of the deposit of metallic silver allowed small traces of the undissolved bromide to be seen which had previously been obscured. The practical precautions, then, to be observed are perfect fixing (preferably in two hypo baths), and perfect washing before applying the reducer. With these precautions, which are really no more than should be done in the case of any valuable negative, failure seems impossible, and your committee feel justified in recommending most heartily this reducer to the members of the society.

Before closing we would call attention to one other fact in connection with the persulphate which has not, as far as we have been able to learn, been made public. While its solvent action on metallic silver is vigorous, it does not attack silver bromide. Noting this property, the idea suggested itself that in this drug might be found a convenient means of producing direct positives in the camera. We proceeded as follows: A plate was given a considerable over-exposure, then developed to the back as fully as possible. After a slight wash it was placed in the persulphate bath, this time ten per cent. The image instead of the silver bromide was in this way "fixed" out. The plate was then well washed and brought out into the light, which at once acted on the previously unacted-on silver bromide. This second exposure was then developed, still in daylight. It will be seen that this process is analogous to the old one employing chromic acid, but is less complex. Specimen H shows an exposure treated in this way. The chief defect appears to be that the sky and other high lights are not clear, and in its present condition the process cannot be regarded as practically useful, though it is not without interest from a theoretical point of view.

CASPAR W. MILLER, *Chairman.*

THE PRINTING ROOM

TRANSFERRING GELATIN P. O. P. TO GLASS OR OTHER ARTICLES.

Some time ago a correspondent to these columns gave a method of transferring P. O. P. to opal or any wood or glass. I tried this, but found, as another reader did, that the picture melted away, though I kept it from slipping as best I could. I now give a method for doing it with certainty and very little trouble.

If they are transferred to glass they make very good lantern slides, a good strong print, rather deeper than usual, being required. If to opal or wooden boxes, etc., a print of usual depth is needed.

The first thing to do is to wash the prints, after being trimmed, until all milkiness has disappeared. Then place them one by one, taking especial care not to let them stick together, into a bath composed of formalin, 1 dram; water, 6 ounces. They must be left in this for from twenty minutes to half an hour. They are then taken out and washed well, and then toned and fixed in the ordinary baths; either combined or separate will do. When this is done, and the prints are washed to get rid of the hypo, they may either be dried or at once proceeded with. If the latter, you must prepare a lantern-slide glass, or any size you wish, to receive the picture.

The transfer may be done on to plain glass (of course, scrupulously clean), but it is apt to cause the print to slip about on the glass unless treated as follows: Dissolve gelatin, 1 ounce, in water, 25 ounces, and add potassium bichromate sufficient to color the solution a deep orange-red. You then coat the well-cleaned glass plate with this, wait till it has dried, and then place it in the sun or in strong daylight for a few hours. This makes the gelatin insoluble. It is a good plan to coat a number of these plates and use them as you go on.

Take the plate so prepared and soak it for a few minutes till wet in plain water, and then take the print and squeegee it on to the plate. Of course, great care must be taken to drive out all the air bubbles. You can easily tell when this is done by looking at the back, when the bubbles will show clearly.

The plate and print must then be placed between blotting paper, and a piece of cardboard, with a weight on top, placed above to keep it well pressed down. It must be left in this position for half an hour or so, or for about half that time, in a dry, warm room.

To strip the paper off, which is all that is left to do, you place the plate first in cold water, and then in hot water at about 180° Fahr. The temperature of this water must be kept up for a quarter of an hour, the time of immersion. An easy way to do this is to place the plate in an ordinary lavatory hand-basin, and let the hot water be running in all the while, the water draining off at the same rate down the overflow. If the plate has been left in long enough, when you take it out the paper of the print ought to slide off the plate on trying to make it do so with the fingers. Slide it off till enough projects to enable you to catch hold of it, when you can pull it up and strip it off the plate. Then place it in a dish of clean water to wash for a little, and dry it, taking care not to let dust dry on the surface.

The lantern slide or transparency is then finished, all that is required being to mount it. If the print is intended for a lantern slide you must not let any black spots, hypo stains, etc., get on to it, as they are magnified so on the screen.

The formalin bath makes the prints so pleasant to handle that I should advise anyone to use it always, whether the print is intended for transferring or not. This way is a very cheap method of making lantern slides — in fact, about half the usual cost.—*The Photographic News.* "HYPOP."

SOME PHOTOGRAPHIC NOVELTIES.

Haller, Kemper Company, announce they are about to place on the market four new specialties, which they describe as follows:

SENSITOL.

This is a one solution sensitizing liquid. Applied with a brush on any absorbent material, such as paper (postal cards, menus), silk, linen, cotton, leather, wood, stone, etc., one can obtain a fine photographic surface ready for printing from any negative; giving beautiful images of brilliant color which can be developed in ordinary cold water and fixed in plain hypo, yet by the additional use of any of the standard toning solutions, or by using our tonfixol, a great variety of colors may be obtained.

Price, per bottle, containing 4 ounces, sufficient to sensitize from 2,000 to 3,000 square inches of paper, $1.

KRUXO DEVELOPING PAPER.

Kruxo, a practical and absolutely permanent *developing paper*, made in two grades: 1. Matt, having a smooth, fine-grained surface; and 2, glossy, which can be squeegeed, or takes a fine burnish. Its beautiful tones are variable at will from black to olive. It is very simple in manipulation, and no darkroom is required.

TONFIXOL,

A strong organic gold preparation, ready for immediate use when dissolved in water, producing an ideal neutral gold toning and fixing bath for albumen, collodion, gelatin, Aristo and other papers. Tonfixol is simple to use, even in results, gives beautiful tones, and is cheap. With the gold tone, no sulphur toning takes place. Price per tube (1 ounce), sufficient for a strong 6-ounce solution, toning and fixing 50 to 75 sheets, 4 by 5 inches, 25 cents. Price per box, sufficient for one quart of strong solution, $1.

We also furnish *Acid Tonfixol* for obtaining special tones.

PFABE'S FIXING POWDERS.

Solution keeps clear until exhausted, and will not stain, but rather clean the plates or papers of previous stains. Prevents curling of the film on paper or plate, and hardens the same. Insures the durability of the prints fixed with it.

1. *Acid Fixing Powders*, excellent for acid fixing baths for dry plates and developing papers: Price, per ¼-pound box, sufficient for one pint of solution, 10 cents; price, per 1-pound box, sufficient for one-half gallon of solution, 30 cents.

2. *Alkaline Fixing Powder*, for alkaline fixing baths for printing-out paper. Price, per ¼-pound box, sufficient for from one to two quarts of solution, 10 cents; price, per 1-pound box, sufficient for from one to two gallons of solution, 30 cents.

COLLINS' CARD MOUNT NOVELTIES.

A. M. Collins Manufacturing Company is introducing a new card called the "Karillo." The leading feature consists of an oval embossed wreath, which imparts to the finished picture the beautiful effect of a miniature. The "Karillo" is made in three sizes and three shades, ecru, sage and ash gray. The ecru card is enameled, the others not enameled. It is equally adapted for vertical or horizontal photographs, of sizes 2 by 2¾, 3 by 4⅛, or 3½ by 5. Samples of these specialties, as well as of numerous others equally worth your while to see, are on show at the dealers in photographic supplies.

THE LOVELL DRY PLATE.

While in the East we had the pleasure of spending a few hours in the factory of the Lovell Dry Plate Company, at New Rochelle, New York. First we went through the manufacturing part and saw the plates made, from the moment the glass was taken from the cases in which it is imported until the plates were put in the boxes ready for delivery. Then we entered the testing studio, made a couple of portrait exposures, and on development got very good negatives, full of gradation, and, if we could judge by their looks, of excellent printing quality. We have no hesitation in saying a good word for the Lovell dry plate.

ST. LOUIS, May 15, 1899.

To the Trade:

We take pleasure in notifying our friends and the photographic fraternity that the recent extensive additions and improvements which have been under way for over a year are now practically completed, so that we are in a position to fill all orders intrusted to our care, *promptly on receipt of same*, with plates of unsurpassed quality.

Thanking our many friends for their kind forbearance during the time when we were short of goods, and hoping to be favored with their future orders, which shall have our prompt and careful attention, we remain,

Yours fraternally,
G. CRAMER DRY PLATE CO.

AS WILL be seen from our advertising pages, the Blair Camera Company has removed its manufacturing plant to Rochester, New York, where it will make the Hawkeye Cameras, which it has manufactured for ten years. For particulars see advertisement of the firm in other parts of this issue.

THE PHOTO-BEACON.
AN ILLUSTRATED PHOTOGRAPHIC JOURNAL.
Published Monthly.

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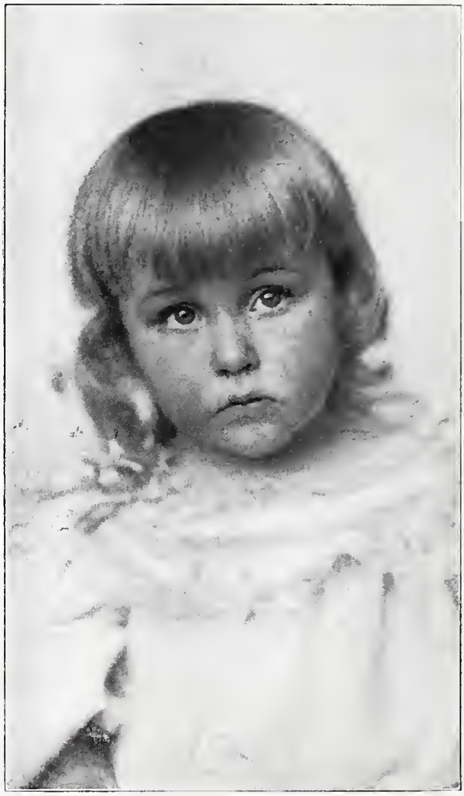


Negative by W. B. Dyer, Chicago.

WHAT IS IT?

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. JULY, 1899. NO. 7.

AU REVOIR.

When this issue of THE PHOTO-BEACON reaches the hands of its readers, its editor will, accidents excepted, be many thousand miles away. It is now seven years, almost to a day, since he landed on what have proved to him to be the hospitable shores of the United States, and from that day till now he has been almost incessantly on the strain, and he feels he has earned a good long holiday. So, accompanied by his better half and family of five children, he is off to visit the old familiar scenes of bonnie Scotland, and purposes having a good time without thought of business or business cares. On such an occasion he would be other than human were he not inclined to be a little reminiscent and look back over the toilsome road that led to success, a success far greater than he ever dreamed of in his most sanguine moods.

But let me get off the pacing horses "he" and "we" and get on to the more comfortable nag called "I." Seven years ago I was a teacher of shorthand in Edinburgh, Scotland, and had there attained as high a position and reputation as it was possible for me to reach. I was thirty-four years of age, full of ambition, and convinced that with more opportunities I could do better. So, against the advice of all my friends and relatives, who all thought I was crazy, I resigned my various positions, sold out all my possessions, provided my wife and three children with a year's provision in advance, and sailed for New York, to begin life again in a new world, landing there with a total capital of $135.

I found I had jumped into a sea of troubles. It was June, 1892, and symptoms of the coming financial storm were on every hand. I drifted into Chicago at the end of July, being convinced that I could not seek a better place to learn American business methods than in the city of the great World's Fair. For six weeks I sought employment in vain; that, too, from firms who buy from me today in large quantities. At last I got a start in the photographic department of the World's Fair, and for the next five months I trudged round the grounds, making from twenty to fifty negatives a day on all sorts and conditions of subjects — buildings, statuary, paintings, detail work, floors, ceilings, machinery, people, cattle, mushrooms, flowers — in fact, everything that could possibly be brought within the field of the lens. I photographed standing on my feet, lying on my back and on my stomach, from the bottom of a hole looking up, and from the roof of almost every building on the grounds. I handled 11 by 14 cameras on the top of stepladders, in dirt wagons — both of them mighty precarious jobs, by the way — balancing myself like an acrobat on strips of wood an inch thick, while the camera depended for its stability on the tripod points being forced into similar pieces. I have carried a complete 11 by 14 outfit for twenty feet on the second floor of a building when only the joists were in position, where a false step would have meant a fall of over twenty feet. In the same building — Manufactures — I once saw a piece of 2 by 4 scantling drop from roof to floor, striking the latter within a yard of where I was walking, and going through the double floor for a distance of fully one foot. It was a wide and varied experience I got there and has been of inestimable value to me since. My salary was at the modest rate of $60 a month.

On January 31 I left the World's Fair, being "fired," my boss having learned the day before that it is not always wise to tramp on a "thistle." This was my first experience of being an employe in America, and I decided it should be my last. When I set out from home I resolved not to start in business for two years, but I broke my resolution, and at once started out as a commercial photographer. I found prices on the down grade, and, though I got some good paying engagements from people who wanted good work, my little capital soon dwindled away, and on May 1 I spent my last 10 cents for lunch.

I was now "dead broke," the position all greenhorns attain sooner or later — the sooner the better — but my "nerve" was as good as ever, and so I went straight to the best friend I ever met in this life, William C. Dow, and borrowed $50. With this sum I started out to get up a picture book of the World's Fair, and for the next three months I had the most stirring time I ever had in this life. It cost me $10 each time I entered the Fair, and often I felt I was up against a stone wall, but when I could not climb over I dodged round, and at last I got out my book, "The World's Fair Through a Camera." It lay dead for six weeks, my publishers being unable to get it agoing. At last they gave me a show, and every day for weeks I started off in the morning with a gross weight of 72 pounds, and peddled them round the World's Fair district. Once I got the demand created we found plenty of people willing to handle it, and soon our sales reached the rate of one thousand a day. This little venture netted me almost $3,000, and I think I deserved all I got, for I certainly schemed much and worked hard. I got my wife and family across to this country on September 1, set up housekeeping in a quiet way, and began to ponder my next move. The panic of '93 had come and everything was running down hill, but I thought the worst was past. So after long pondering, I determined to try my hand at photographic journalism, believing it was an easy, pleasant way of making a living. I got badly fooled. On January 1, 1894, I took over The Photo-Beacon, having then in the bank close on $2,000. By June 1 I was without a cent, and, more than that, was in debt. I did not find every amateur and professional photographer standing on the front porch waiting to welcome a photographic magazine with open arms, but I found them instead rather inclined to "sic" the dog at it, or take a shotgun to it. My total drawing for 1894 amounted to $1,600, while my expenses were nearly three times as much. I did not lie down and squeal, but set my teeth hard and resolved to see the thing through. Luckily for me my good friend Mr. Dow had faith in me and stood by me in my hour of need, while my printer was just as kind. Things mended a little in 1895, but I still fought backward. The following year I got my little boat on an even keel, the receipts being just a little more than the expenses. In this year I decided, against the advice of all my stockhouse friends, to write books on photography. I had no less than three on the stocks at one time, the last to be begun and the first to be issued, being the "Exposure Tables." This book was received very charily, the dealers on every hand asserting that they had been so often bitten by such books that they would not bother with any more. But it gradually won its way into popularity and it now bids fair to be the most popular of all my books, the sales in May this year being fully 1,600.

Early in 1897 I issued "First Step in Photography." I had hopes of selling about one thousand a year, but the first edition of 2,500 was sold out in little more than a month. It is now in its fortieth thousand, and has every appearance of being a record-breaker. It may interest my readers to know that it took me three months to fix its title, no less than fifty having been considered and rejected before I hit upon the right name for the baby.

"Second Step in Photography" and "The Reference Book of Practical Photography" occupied my time in the summer, as also did the editing of "Artistic Lighting." Then followed "Amateur Portraiture at Home." Altogether I put on the market six books in one year, so that with writing, proofreading, supervising printers and process men, editing THE PHOTO-BEACON, carrying on the business affairs of the office, for here I was everything from editor to message boy, I was kept fully employed from early morn to midnight and even later. This is photo-

Negative by W. B. Dyer, Chicago.

STUDIES OF A CHILD.

graphic journalism as I knew it for five years — hard work with mighty little pay—in fact, for more than three of them my home expenses never exceeded $500 a year and in that time my family was added to twice. Little wonder I feel sorry when I see another man venturing his little bark into such a troubled sea.

Last year saw my little ship getting out of the shoals into safe water, but while it found me as sound and healthy as I ever was in my life, it found my wife sadly broken in health as a result of the long and weary strain she had undergone. So I decided to send her home for a year's change and rest, but fate decided to give us one good whack more, just for luck, I suppose, and so within a week of sailing whooping cough broke out in the family and upset all our arrangements. Otherwise things have come my way pretty well during the past year.

Just before I started for this country a friend who had traveled much in the United States gave me two good rules to go by. These were, "Associate as much as you can with the Americans, you will find them good-hearted, and they will give you a fair show if you want to do what is right," and, "Give them the best you have, for they will pay you generously for whatever is really good." I have acted up to these day by day, and after seven years' experience I see no reason to depart from them.

Possibly I have been talking too much of myself in this article, but I feel it will be read by many young men and it may show some of them that after all the royal road to success is the same old path. Steady, continuous effort is what counts, and when clouds gather thick and fast, then is the time to strive all the harder.

In conclusion, let me say that I have been a persistent advertiser, having for years spent one-tenth of my gross receipts on "printers' ink." For a long time it appeared to be sheer waste of money, but it has proved a winning card.

Gentle reader, don't you think I have earned my holiday?

OUR TENTH PICTURE COMPETITION.

This competition, we regret to say, was a flat failure. Something like twenty prints were sent in, but not one of them had the least artistic merit, and therefore the judges positively refused to make any award. In selecting this as one of the subjects, it was expected that competitors would select a branch whose lines would show some pictorial lines, but one and all seemed to think that any old branch was good enough, and the result was a dull uniformity of the commonplace. Will those who purpose taking part in the twelfth competition kindly keep the decorative quality in mind?

FUTURE COMPETITIONS.

Competition No. 12 — Branch of a tree with leaves; closes July 31.

Competition No. 13— Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15 — Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

LITERARY COMPETITION NO. 3.

Only a half-a-dozen competitors felt inclined to tell how a stock-developing solution should be prepared. Without exception they were very good, the main object aimed at being simplicity and ease of preparation.

The prizes were awarded as follows:

First prize — William Bullock, Cleveland, Ohio.

Second prize — E. M. Miller, Des Moines, Iowa.

Third prize — M. L. Bishoff, Eudora, Kansas.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 5.—How to make a good mountant or paste. Closes July 15.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

No. 7.—Copying photographs. Closes September 15.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible. Closes October 15.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas. Closes November 15.

No. 10. How to utilize photography as a hobby during the winter. Closes December 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

OUR PICTURES.

This month's pictures are to us most interesting, and we fancy they may be to our readers. When "Artistic Lighting" was running in The Photo-Beacon Mr. Dyer was just beginning to dabble in photography. He became exceedingly interested, and devoted every spare minute to portrait work along the lines suggested by Mr. Inglis. Much against our advice he determined to enter the ranks of the professional photographer, and much to our surprise has made a success of his new calling. He is in love with his work, especially with the little folks, and on the day we called at his studio he had decided to make only children's portraits in the future. We helped ourselves very liberally from prints in his portfolio, and have reproduced quite a few to show our readers the quality of his work. No word need be said in their praise, as they bear evidence of an artistic mind behind the camera.

KODAK FILM IN SPECTROSCOPIC PHOTOGRAPHY.

Sir Norman Lockyer has lately been experimenting, and very successfully, with flexible film, with the idea of adapting it to spectroscopic photography. The large concave Rowland grating which Sir Norman Lockyer is now using for his solar spectroscopic photographs has 20,000 lines to the inch ruled on its surface, and is of 21½ feet radius, giving a spectrum of 30 inches long. The focal plane of this grating is of necessity considerably curved, in fact the plane of accurate definition at the edges of the field is about 0.5 inches in front of the similar plane at the center. It is, therefore, impossible to get a sharp photograph of the whole spectrum on a glass plate; in fact, not more than 18 to 20 inches of the spectrum can be brought into focus on the same plane. The difficulty is, of course, got over by the use of a flexible film, which can be bent to the curvature of the field.

The Kodak Company has sent us a print of one of Sir Norman's phototraphs taken with this Rowland concave grating. This must be the longest solar spectrum photographed at a single operation. It is 30 inches long, and shows the arc spectrum of iron with a comparison spectrum of the sun from wave length 3,600 to 5,200. Sir Norman Lockyer also hopes that by using films, instead of glass plates, at the next solar eclipse, he will be able to obtain a greatly increased number of photographs, owing to the rapidity with which the film can be shifted in the short space of time available for photographic operations. At the last eclipse the photographic work was concentrated on obtaining a series of photographs of the chromosphere, both about the time of beginning and end of totality. By careful drill, Mr. Fowler and Dr. W. J. S. Lockyer were both able to secure ten photographs at each of these important periods, the time occupied in making each series of ten exposures being 12 seconds.

An apparatus for carrying films is also being designed which can be adapted to the spectroscopic cameras at present in use in the laboratory and observatory.

A WORD IN SEASON FROM S. L. STEIN.

Are you making any preparation for the next Photographers' Association of America convention at Celoron? It is going to be a big thing — the biggest yet — and you ought to be there. The prospects are bright for the largest and most enthusiastic meeting we have ever had, and fortune could not offer you a finer opportunity of posting yourself in all the most noteworthy and up-to-date developments and of getting into friendly touch with the best men in the profession. To know them and their work at such short range is a liberal education; to miss the opportunity is to miss a big chance for betterment.

Do not neglect it. Get your exhibit ready and send in your entry blank to me at the earliest possible moment. If you haven't any let me know and I will send you one. Only too glad to be asked for them. Time is getting short, for the convention meets in July; so start your preparation at once. Make up your mind that you will be well represented. Look over the list carefully and select those classes in which you can make the best display — and make it.

To be in evidence at a convention like this is not only a help to the Association, it helps you. It keeps you in personal touch with the best that is being done and the men who are doing it. And if you capture a prize or two it gives you at once a prouder standing in your own town, and it all leads to better business. For every one of a dozen different reasons — but all good ones — you should make up your mind to be present. I am hoping to hear, by return mail, that you had already formed the same opinion. Trusting to meet you at Celoron, Fraternally yours,

S. L. STEIN,
First Vice-President.

Milwaukee, Wis., May 24, 1899.

AN ECONOMICAL HINT.

The troubles of the amateur photographer are many. The one most troublesome as well as most common is, perhaps, how to spare money enough to satisfy the stock dealer's bills. With me economy has always been a stern necessity, and to that fact I am indebted for the information I am about to give. Perhaps it is old to some of my readers. Something of the sort has been published before, but it will bear publication again.

Paper as a medium for receiving negative emulsion has been entirely displaced by glass and celluloid. But paper coated with bromide emulsion is still obtainable in all stockhouses at about one-third the price of glass plates. Of course, we all know what bromide paper is and the purpose for which it was designed. But bromide paper will make as good a negative as positive; and for most purposes where the exposures can be sufficiently prolonged it can be substituted for plates or films. It is not suitable for portraiture because the grain of the paper is too apparent, but for general landscapes this is no detriment whatever.

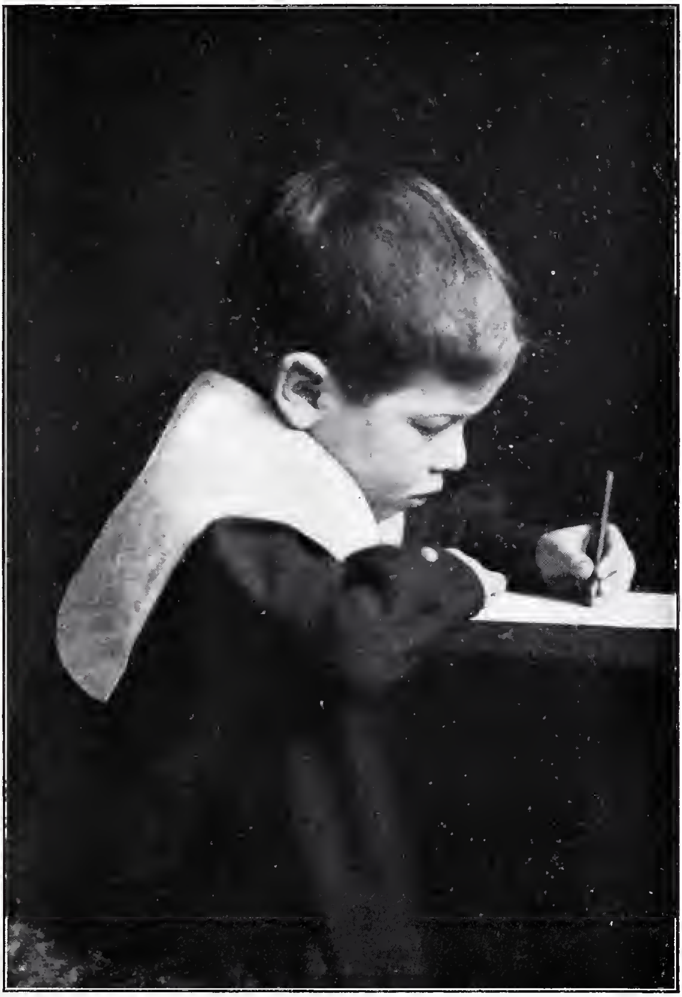
The makers of bromide paper claim for it about one-twentieth the sensitiveness of a good dry plate, but I have found in practice that it requires only about fifteen times the exposure of a Seed 26X. Where the plate would need one-tenth of a second I give the paper one and a half seconds. Where the plate would require one second I give the paper a quarter of a minute.

I prefer to use amidol for developer. Not that it is better than iron or other developers, but because it is so handy. The following is my formula:

Saturated solution sulphite soda	1 ounce
Water	6 ounces
Amidol	10 grains

This developer must be used fresh, but it is simple and cheap and yields good printing negatives.

After development, the negative is rinsed and fixed for ten minutes in water, 5 ounces, hypo, 1 ounce. When the negative has been thoroughly washed and dried, it must be oiled to make it translucent and to get rid of the grain in the paper. Many preparations have been recommended for this purpose but I have found that the following method yields the most satisfactory results:



Negative by W. B. Dyer Chicago.

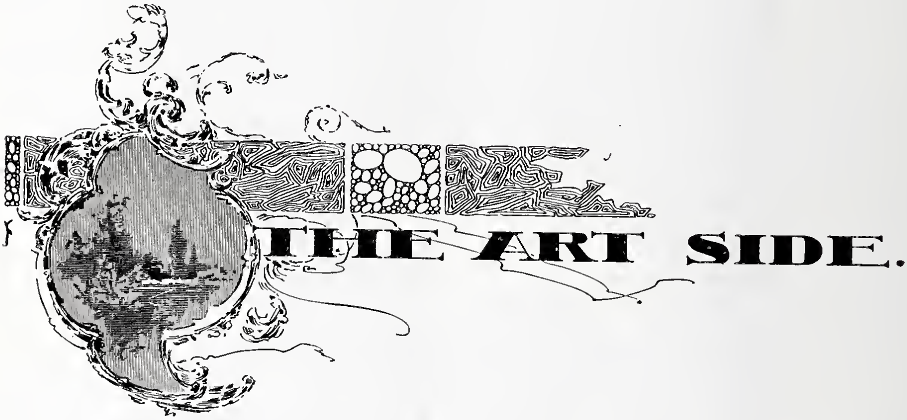
ART.

In a shallow dish melt sufficient paraffin wax to thoroughly saturate the negatives when immersed. Leave them a half minute or so, and then press each separately between blotters or brown wrapping paper with a hot smoothing iron. This will take up the surplus wax. A negative prepared in this manner will print almost as rapidly as if it were on glass. Vaseline and other oils, that are sometimes used for the same purpose, have a tendency to separate as well as to leave a grease spot on whatever they touch. But a negative made translucent with paraffin (which is so cheap that its cost does not figure in the calculation) will require no more attention, no matter how long it may be kept.

Paper negatives can be stored and catalogued as readily as films, and have not the disagreeable tendency to curl that affects the latter. If one has a roll-holder the bromide paper could be readily substituted for film and used for all, or most, time exposures.

Of course this will be of no use to the button pusher who has some one else to "do the rest"; but the careful tripod worker may find here a useful hint.

J. EDGAR ROSS.



THE ART SIDE.

FLOWER PHOTOGRAPHY IN A GARDEN.*

Judging from the number of articles on the subject which have appeared in the papers lately, there seems to be quite a boom on in flower photography. Fashions come and go in such work as in other things; the success of one leads others in the same path, and hosts of imitators follow. We have had, and still have, sunsets innumerable, mists and marshes, more recently birches, brackens, and flowers. Perhaps we are on the high road to a more cheerful outlook, when exhibition walls will not forever frown upon us with representations of gloomy dawns, fading light and lurid skies. May it not be that we have come through the darkness of night, through the somber woods, and are greeted by the flowers of a brighter country beyond?

Sunshine and flowers are all too rare in this gray land of ours during many months of the year. Should we not recall them to our minds more than we do?

Perhaps the hot summer and autumn of 1898 may have had something to do with the awakened interest in flower photography. The beautiful clear light of many lovely days tempted the ardent worker to sally forth in search of the subjects which he felt must be lying ready to hand at every turn of the way. But the heat of a pitiless sun soon drove him homeward again to find rest and coolness in a shady garden, and there he came upon a bevy of old friends waiting to greet him. Roses, lilies, anemones, and hosts of others crowded round him. He had only to choose, and, having once begun this fascinating study, and found how admirably it was suited to while away a long summer's afternoon and leave a sense of good work done, he was not likely to relinquish it all at once. From the point of view of a lady photographer anything that can be experimented on near home is of immense advantage in summer no less than in winter. A camera of any size is a fairly weighty burden, so are the necessary dark slides. Skirts, however "sensible," require to be held up now and then, and the small hat which goes comfortably under a black cloth does not, without the help of a parasol, keep off the sun; so that, to be properly equipped for an expedition, quite two, if not three, pairs of hands are necessary. It must be admitted that good-natured friends can often be induced to help, but on a drowsy afternoon they are perhaps more inclined to slumber under a shady tree and offer such a suggestion as "Why not try a group of us all here if you want to photograph something?" Where, then, could pleasanter work be found than in a garden?

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* Paper by Miss Christian H. Curle, to which the silver medal of the Edinburgh Photographic Society was recently awarded.

Negative by W. B. Dyer, Chicago.

Perhaps some recent competitions in the gardening magazines may have helped to stir up an interest in this branch of photography, but I am inclined to give a full share of praise or blame to the heat of last summer.

I advocate working in a garden, for I think that it is much to be preferred to bringing flowers indoors. There, unless growing in a pot, they must be put in water, otherwise they soon droop and flag, and the handling they must undergo in being arranged does not help matters. When in a vase, a stem cannot always retain its natural curves, while a group of flowers becomes a bunch of which one has lost the individuality, if it may be called so, that it had when growing. The difference between a plot of snowdrops in the garden and the same flowers when cut and put in water illustrates what I mean. A blossom or spray taken *as it grows* is much more likely to look graceful and natural than when arranged, however carefully, in a vase. Undoubtedly, an interesting field lies open to any photographer who has a love of flowers and takes a real interest in their variety and habits. By studying these in a garden a series of photographs might be gathered forming a most interesting record of the year. Any flowers that have grown to great perfection, those rarely met with, old-fashioned favorites in danger of being forgotten, or those successfully bloomed for the first time, should be carefully selected and included; and the result might easily be that, while the whole formed a collection interesting and perhaps valuable to a botanist, each study by itself would be an artistic picture.

Now is a particularly favorable time for such a project. Gardens and the plants in them are allowed to be more natural than a few years ago; ribbon borders have given place to herbaceous borders, and everywhere more freedom of growth is encouraged. The style of flower in favor has changed to suit these altered conditions. For instance, the stiff formality of the dahlia of other days has given place to a looser, freer, more graceful form of flower. Single roses have crept in where once only the most perfect double forms were considered worth looking at; the much-loved camellia has lost much of its old popularity, and in other families the tendency is the same. The favorite flowers are no longer those which remind us of the bouquets our grandmothers so patiently modeled in wax. An ideal garden of today is a charming medley of plants, old and new, growing as much as can be permitted without restraint — creeping, climbing, festooning where they will, carpeting the ground and covering the

Negative by W. B. Dyer, Chicago.

trellises with rich, tender color, filling the air with delicious scents. It is not quite the garden of Bacon's dreams. True, we cherish the "stately hedges" if fortunate enough to possess them, but they have no "little turrets" to hold "cages of birds," and, happily for the photographer, no "broad plates of round, colored glass gilt" for the sun to play on.

What a vision of distracting high lights! One great advantage of working out of doors is that the brilliant light permeating the petals of flowers helps to show their delicate transparency, and in many cases to give truer color values than could be looked for indoors. Of course, there are difficulties, too. The chosen flower or spray does not always grow at exactly the right height for the camera, nor catch the light at a good angle. Shadows of leaves may fall upon it, or it may sway beneath the weight of numerous energetic bees, whose well-known habits of industry apparently make it impossible for them all to stay still a single instant. Some flowers they persistently haunt, such as the Erigeron or sea holly. Tempted by the beautiful silver grays and blues of this handsome plant, I tried one day to photograph a branch of it. But no less than nine bees were there before me, and, though they might have helped to make an interesting picture had they been still, the constant movement of some of them kept the plant trembling and quivering so that an exposure of proper length was impossible. The question of suitable elevation has also to be considered out of doors, flowers which grow low down on the ground being much the most troublesome to manage. No amount of careful arranging will make a group of, say, giant colchicums (autumn crocuses) look natural when cut and brought into the house. A typical group of them must show the large stately flowers at every stage of their growth, for so they are usually seen in the border when at their best. The full-blown ones, opening wide to the sun, show the beautiful striped veining of their petals; the half-grown, of a deeper shade of mauve, still partly closed; and, lastly, the round fat buds pushing their way like mushrooms through the soil. Together they make a beautiful group; but to reach them the camera must be brought as low as possible — so low that careful focusing becomes extremely difficult, and the poor photographer is obliged to lie almost full length on the ground to see the ground glass at all. In this trying and back-breaking position he is apt to overlook the fact that the camera has included one of its own legs in a curious distorted fashion in the picture.

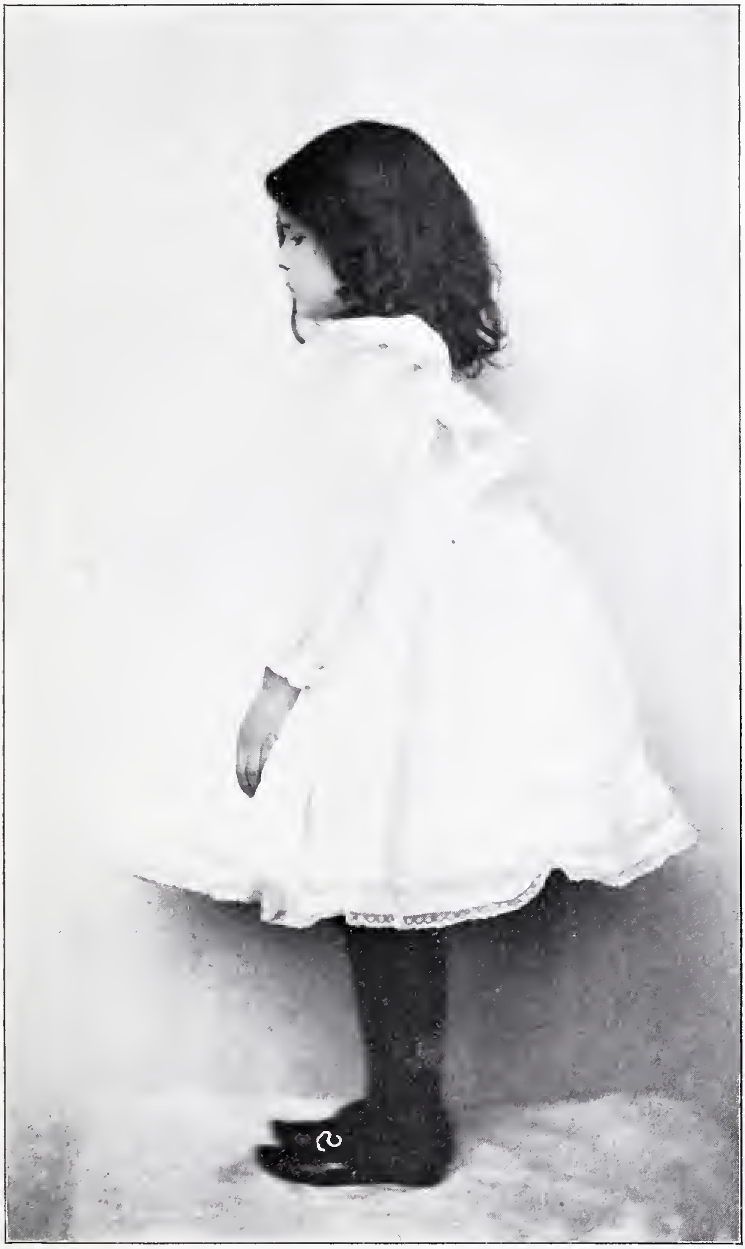
Snowdrops present the same difficulties, but they can often be found growing more or less wild on the steep bank of a glen, and then can be got at very easily. In this case they often have a beautiful natural background of dark-green wood ivy to show up the purity of the dainty blossoms. When a flower grows too high up, and it is not possible to raise the camera sufficiently to be on a level with it, I have found the best plan to be to cut the spray with as long a stem as possible, and tie it to some support which brings it to the proper height. Peasticks may be found most useful for this. The length of stem cut admits of the flower retaining its natural pose, and also allows the buds, thorns, leaves, etc., to be clearly seen. Sometimes a little judicious thinning of the leaves is advisable. A piece of yellowish-brown pasteboard, such as is used for packing books, makes an admirable background, and, if there is any difficulty about propping it against another peastick, it can easily be held in the hand while the plate is exposed. No amount of movement matters as long as the pasteboard is large enough and does not touch the flowers to shake them. A lighter or darker background can be had according to the distance it is placed behind the subject. When very near, it will in most cases be darker, and care must be taken that the shadows cast on it are not too distracting. If soft and slightly confused, they may add greatly to the beauty of the picture.

An ideal place for flower photography is a trellis covered with flowering creepers. Then there is a great choice of beautiful blossoms, sprays, and branches, and the background is easily arranged behind them. Nothing more delightful could be found than a group of some of the single roses which have come into favor the last few years, such as the Penzance briars, Macartney roses, Paul's pillar whites and carmines, and many others. They are most graceful and decorative in their growth, a thousand times more so than the full, well-formed double roses which are the gardener's delight. A charming study can be made of the flowers of such a rose — a bud, perhaps, or a seed-vessel or two, with a few gray-green leaves, and some of the stem showing to give as much as possible the character of the plant. The background should be used here, for, though a thick screen of green looks well enough on the ground glass, it may be very spotty when reproduced in black-and-white. Brown paper does very well if the pasteboard is too heavy, but it must be free from creases. The best effect is generally secured when the light falls on the flowers from the side, and in most cases bright sunlight is not advisable. The very deep shadows thrown by it rather hide the true form and delicate roundness of the blossoms, and the faint half-shades may be lost, while the high lights tend to become too dense. This, however, can hardly be laid down as a rule, for plants differ so much in habit and coloring that each must be studied and taken in the way that suits it specially. Speaking generally, the flowers that can be most successfully photographed are those of a pale color, and not too solid a growth. The blossoms of apple, cherry and peach fulfill these conditions, and at the same time grow in most beautiful sprays. Almost any one taken at random makes a picture of itself. Single roses, Japanese anemones, irises, the common pink and white mallows, and many others, make charming subjects for the camera. One and all, they look their best life-size. Working with a half-plate camera, a good deal of selection is required to find just what will suit the proportions of the plate and fit into it.

In making a study which is to be of botanical interest, care should be taken to show any special characteristics of the plant. Whatever helps to recall the living, growing plant to the mind adds an additional value to the picture. Sometimes the backs of the leaves are very distinctly veined, as in the Japanese rose, *Rosa rugosa;* they are more gray in color than the other side, and the veins stand out very prominently. These catch the light prettily, and it is not difficult to show the texture of the leaf. The same rose has very large handsome hips, which should not be forgotten.

The seed-vessels of many plants are beautiful and distinctive; none more so than those of the physalis or winter cherry, some irises, honesty, or the pods of the common broom, which are of a dark gray-brown color, covered with fine downy hairs.

So far, only flowers or sprays have been under consideration, but a whole plant may make a very striking picture, such as a well-grown bush of spirea, *Grossulariæ folia,* all hung over with its drooping bunches of creamy flowers, or the more upright variety, *S. gigantea,* with its tall spikes shooting up boldly from among the leaves. Groups of tall lilies or foxgloves make a delightful study, all the more so that they have a pleasant way of frequently growing in front of dark bushes, which make an excellent background for them. Large poppies of pale shades should be included in our list, but the red ones are disappointing. Here we come face to face with the great weakness in flower photography, the impossibility of reproducing color. In dealing with flowers which are white or of pale shades it is not felt so much; but, when we come to brilliant scarlets or glowing reds, the wisest thing to do is to pass by on the other side, and regretfully allow that, until we triumphantly arrive at perfected color photography, one of the greatest beauties of the garden remains unattainable by the craftiest camera. In photographing flowers the focusing is not such a simple matter as in landscape work. Everything is at such close quarters that the distortion of parts not in focus becomes very pronounced unless a small



Negative by W. B. Dyer, Chicago.

A POSTER GIRL.

stop is used. This necessitates a comparatively long exposure — no easy matter when every petal and leaf, emulating the traditional aspen, quivers with the slightest breath of air. Absolute stillness has to be patiently waited for. The common saying, "Not a breath stirred," infers a state of things seldom met with during the day, especially in a *Scotch* garden. A certain amount of softness in the definition of parts of a group is often an improvement. What should be aimed at is a picture which will express in some degree the tender delicacy of flower petals and their texture. Roses should not be hard and clear cut as if they were shells or molded in fine porcelain; nor must they err on the other side and lose all feeling of the cool freshness we associate with the touch of them.

Isochromatic plates are much recommended for flower photography, and for some colors they are indispensable, but my own experience is that any good very quick plate will, as a rule, do excellently for open-air work. The difficulty of getting the flowers absolutely still makes a short exposure imperative, and yet it must be a full one, for a harsh underexposed negative is hopeless. Therefore I prefer a quick plate.

The developer used should be slightly weaker than for landscape work. It is generally safe to use the one the worker is accustomed to, slightly modified to suit the case.

Development carried too far is a great mistake, particularly with studies of white flowers. What is desirable is a clear, good negative, with plenty of soft detail in it, and no fog. Such a one prints clearly, without losing the delicate half-shades of the flowers. Great care should be taken not to expose the plate to too much light in the darkroom; even red light should be sparingly used with the quicker makes.

For studies of flowers there is a large choice in the matter of printing processes. They look well in almost any, particularly so in carbon. They have this advantage, that, as the inversion of the image rarely matters, single transfer suits them as well as the longer process. They tell no such tales as do figure studies. An excellent one of a seamstress, seen lately, represented her as sewing diligently with her left hand.

Platinotype, too, gives very good results, either on rough or smooth paper. I find that the best are got by printing, even in summer, from a negative of average density, in the brightest sunshine available.

In winter a good deal can be done to avoid the dull, muddy look which, in spite of all precautions against damp, will often show itself then, by warming everything used in printing. The negative should be held to the fire for a few minutes, and the printing frame laid inside the fender till thoroughly dry. The bottle containing the developer, its cork loosened or removed, may be placed close to the fire while printing is going on. It will then warm up slowly, and be ready when the prints are to be developed. Those suspected of being under-printed should be done first, as the solution soon cools. If porcelain dishes are used, they, too, should be heated by being filled and refilled with hot water. By taking these precautions good prints may be secured in any weather from a fair negative.

The objectionable muddiness to be guarded against seems to spoil photographs of flowers more than any others, for we trust to their delicate gradations of tone to help us to recall the beautiful tender coloring it is as yet beyond our powers to reproduce.

THE LATEST AND BEST.

We are told that should a "hustling" photographer in Germany advertise his products as the best made in his locality his competitors can drag him before the courts, and should a body of experts, appointed for the purpose, fail to establish his claim, the poor man is heavily fined and probably imprisoned. Here in this free country we can say that the coming convention at Celoron is going to be the best one ever held, without any thought of interference. But seriously, if we were hedged round about with German laws we would make the same announcement with the same disregard of consequences. The mere fact of its being the latest gives it a strong claim to being the best; for is not photography advancing? If the exhibit shows all that is latest and best in this advancement can one not learn something of profit from it? Aside from this argument we claim it is going to be the best from the fact that the work of providing instruction and recreation has been planned with the utmost care and carefully worked out in all its details.

The railroad fare will be one and one-third fare on the certificate plan from points east of Jamestown and one fare for round trip from points west. All ticket agents in the territory of the Passenger Associations have received their instructions and your local agent can supply you with needed information. See large posters (at all stockhouses) for description and locality of the following hotels. It is the secretary's business to furnish information. He is put in office for that purpose. He is at your service. Very truly yours,

George B. Sperry,
Sec. P. A. of A., Toledo, Ohio.

LIST OF HOTELS, WITH RATES.

The Greenhurst, P. O. Address, Jamestown, N. Y.	$2.50
Kent House, Lakewood, N. Y.	2.50
The Waldmere, Lakewood, N. Y.	2.50
Saratoga Cottage, Lakewood, N. Y.	1.50
The Cowing Cottage, Lakewood, N. Y.	1.50
Humphrey House, Jamestown, N. Y.,	$2 00 to 3.00
Sherman House, Jamestown, N. Y.,	2.00 to 3.00
Everitt House, Jamestown, N. Y.	1.50 to 2.00
Hayward House, Jamestown, N. Y.	1.50

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

IX.

(Copyright, 1898, by F. Dundas Todd.)

Not only must the "feeling" in a "head" be kept by the correct handling of the lens as before stated, but that "feeling" must also be obtained by the correct pose of the head itself, and the expression of the features.

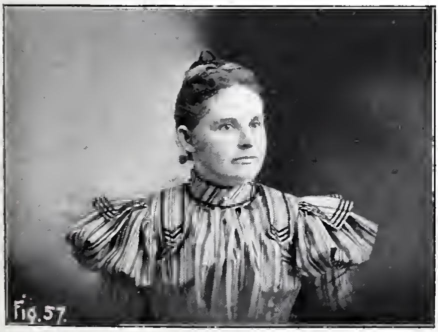


Fig. 57.

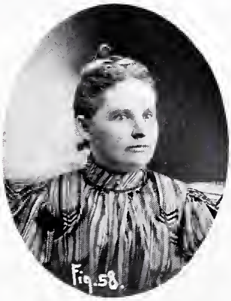


Fig. 58.

Now all portraiture is or should be an effort to portray the most amiable and sweetest expression of the individual in question, and we all know that when we think of woman the thought is synonymous with grace united to goodness and purity, together with that indefinable quality which we term "womanliness," and all our portraiture ought to express just that feeling. And when we take into consideration the fact that a photographic portrait is merely the portrayal of one single moment of expression, we can readily understand why it is that many photographs are not exactly portraits — just in the same way as an instantaneous photograph of a man walking will show poses of the body which are entirely foreign to our sense of sight, because they are fractional parts of a motion which the eye appreciates only as a whole or completed act. Knowing and recognizing this fact, we should so arrange the features that they express *as a whole* the feeling of the sitter, and by the knowledge of the poses which best express the varying moods and tenses of the feelings one can succeed in portraiture by these poses alone. In our next chapter we shall take up this subject of the skeletons of expression; but for the present we shall content ourselves by saying that between the pose of man and woman there are two salient points — the character and expression — and as in the case of woman everything is governed by the feeling of gentleness, so with man it is altogether different, for in him the principal expression must be that of firmness and manliness, and therefore the upward tend of the head is only suited to him as being of a decidedly bolder and firmer cast. In the male figure the slight inclination of the head which gives grace and causes the figure of the female to readily conform to the "line of beauty" can but very rarely be used because it is apt to give to him a pose which rightly belongs to a woman and results in a certain amount of effeminacy which is, to say the least, undesirable, and therefore there is allowable to him an amount of angularity which is fatal in the case of a woman.

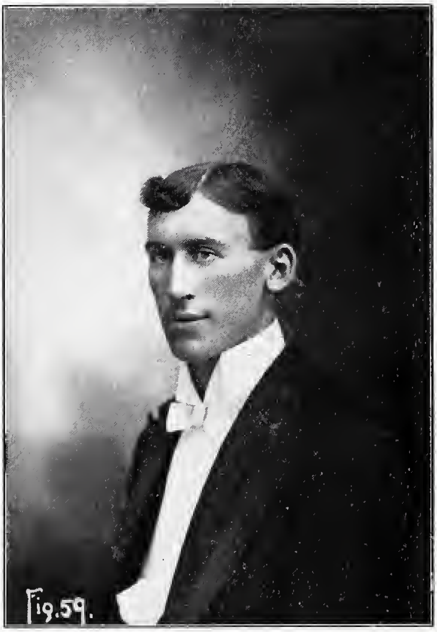


Fig. 59.

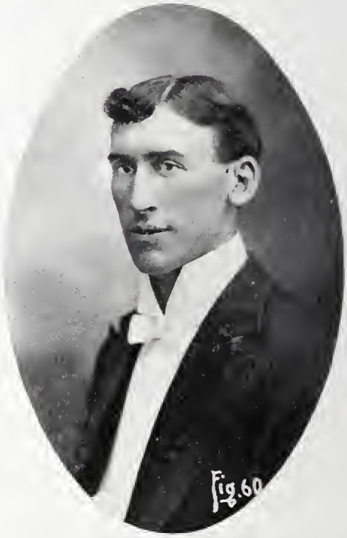
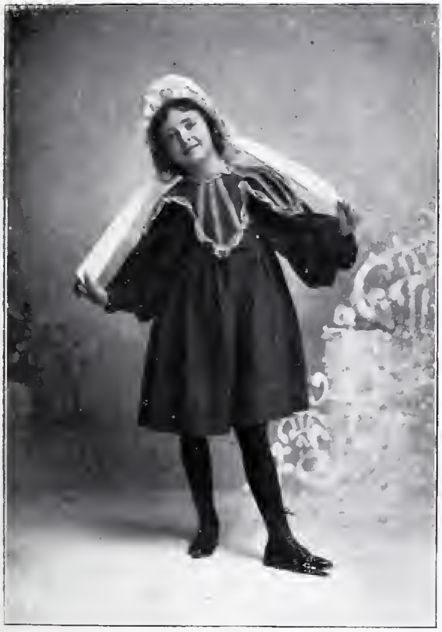


Fig. 60

Besides what we have already learned with reference to these lines of composition, it would be desirable to state that there is another set of lines which must also be taken into account, and these lines are the bounding lines of the picture — namely, the shape. When we look upon a photograph we are not only conscious of the portrait thereon but also of the general size and shape of the whole — that is to say, we see at once whether the picture is rectangular, square, oval or round, and I desire it to be understood that such shape influences to a great extent the effect. In Fig. 57, for example, the effect is not good, while in Fig. 58 the improvement is evident, simply because the horizontal line of the shoulders is contrasted or opposed by the curved line of the border; and also in Fig. 59 the same criticism would apply, for in Fig. 60 we see that the upright and almost vertical lines of the lapels of the coat are contrasted by the shape of the picture.



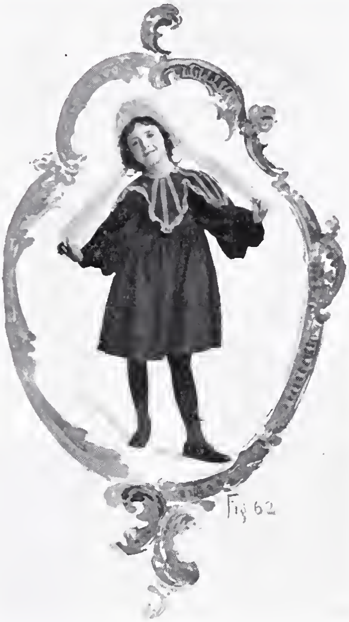


Fig 62

From this we learn that all photographs which are composed principally of upright and horizontal lines are best and most effective when made to conform in their bounding lines to an oval or a circle. Very rarely, indeed, do we see a picture which has for its boundary lines a shape more or less fancifully ornate and frilled with many intricate convolutions, the reason being obvious, namely, that the observing photographer has noticed (possibly without giving any serious thought to the matter) that the more ornate the border the less satisfactory the general result. The reason is that such a border or shape, on account of its twistings and turnings, tends to lead the eye away from the main object — the figure. Of course, you must understand that all general rules have their exceptions, and even so is there an exception here. In Fig. 61, where we have a bright and airy figure, the lines of the picture are too severe, and just such a border as we have spoken of is not only allowable, but, indeed, very helpful to an artistic result; while, in Fig. 62, we see that there is a brighter and more artistic effect to be gained by such treatment. Therefore, from this we deduce that for all pictures of young children, who are posed in that "careless elegance" so characteristic of them, the curved and ornate edge, when it is kept lower in tone than the picture itself, is a positive advantage.

Direct now your attention to Fig. 63, and compare it with Fig. 64. In the latter we have a successful attempt at a family group, or, we might almost say, a home group; while in the former there is a total lack of family feeling and interest, every head and eye being turned abruptly to the front with a pained "each-man-for-himself" expression predominating throughout. Note the similarity between the two photos;

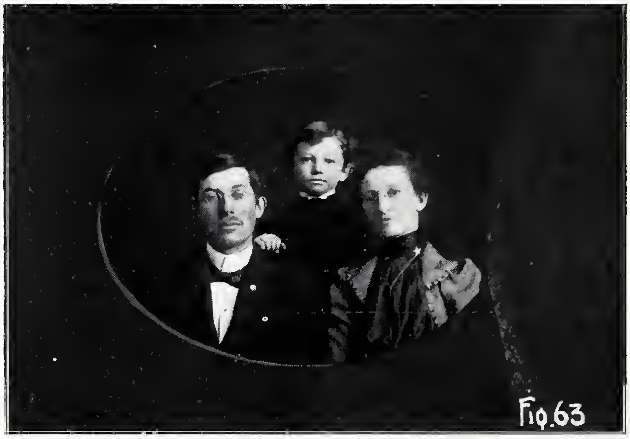


Fig. 63

observe how the artist in one case has kept the center attraction of one family by the slight turning of the head of the lady on the one side, and the inclination of the body of the gentleman on the other; and compare it with the attempt of the photographer in the other, where the interest emanates from three different points, and the upright and stiffened figures show utter lack of artistic feeling.

With reference to the shape of a picture as governing to a great extent its artistic effect, it would be advisable that the photographer who is seeking to improve his work should provide himself with a variety of cut-out mats of various sizes — rectangular, square, upright and horizontal ovals, and also a few in circular shape. Then when a print is made it is a very easy matter to lay upon it the variously shaped mats, and he will thus see at once (possibly at first without just knowing why) that some one shape will give a much better effect than any other.

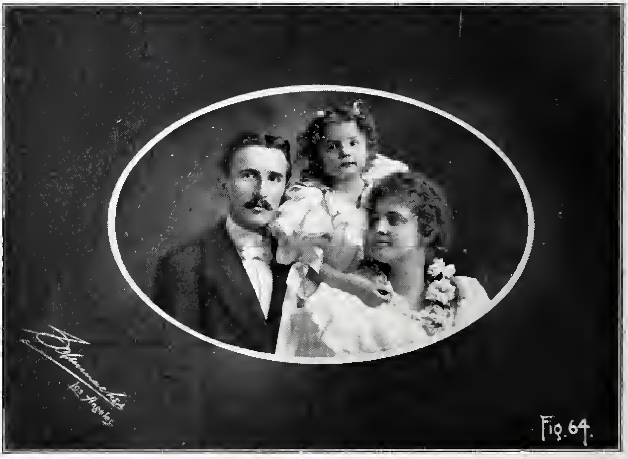


Fig. 64.

R. JAMES WALLACE.

I have used your Photo-Beacon Exposure Tables from the Atlantic to the Pacific, under all sorts of conditions, and they have not failed me yet. JAS. G. MENZIES.

BLOCKING-OUT BACKGROUND.

The best thing to do is to prop the negative up firmly at an angle of forty-five degrees, with a piece of white paper laid flat on the table, so as to reflect the light through it; or else to use a retouching desk; some even place the negative flat against a window, but it is not quite so easy to work on in this position. Procure a draftsman's fine pen, and charge it with black varnish — which may be obtained from almost all dealers — and carefully trace round the outlines of the object which it is required to leave; then, when this is done, use a fine camel's-hair pencil, and brush the varnish in over the rest of the part that it is required to block out. This method, of course, gives a white background; if a black one is required, the outlines of the figure should be carefully gone round with a very fine penknife point, or a needle in a wooden holder, then the rest of the background scraped away with the knife; or it would be possible to then take the image of the background out with a reducer, or potassium cyanide, when, of course, the background would be black.

THE DARKROOM

HOW TO MAKE A STOCK DEVELOPER.

FIRST PRIZE ARTICLE.

The production of five hundred 5 by 7 inch negatives this past year and the use of various developers justifies me in saying that I have found nothing to equal pyro for giving a print which contains everything visible in the negative. I use any make of plate. I take Seed's formula, which is the simplest of all formulas, and make it still more simple and handier to use and put up, yet containing about the same number of grains per ounce of solution as given by the Dry Plate Company. It never fails, keeps indefinitely, is quickly made, only one bottle, and here it is:

Sal soda crystals	1 ounce
Sulphite soda crystals	1 ounce
Water	8 ounces

That is all.

Keep well corked in 10-ounce bottle. To develop a 5 by 7 plate, take three or four ounces of water and one ounce of the above solution, put in the tray, throw in half a teaspoonful dry pyro, rock the tray a second or two, and it is dissolved; then develop. I never have pin holes by adopting this plan. Half a teaspoonful of pyro is about 10 or 12 grains, therefore there are about 3 grains to ounce. Only one bottle and the dry pyro. Keep a little bromide potassium handy for over-exposures.

The Eiko-Hydro developer can be used the same way, adding the Eiko and Hydro in the dry state. If double coating plates are used, take half the quantity of pyro.

It will be seen that if the plate shows under-exposure and a little more solution from the bottle is added to bring out detail, more sulphite of soda will also be added to developer, thus preventing discoloration of negative. If over-exposure is indicated, give the next plates less than an ounce from the bottle, the developer then containing less sulphite will permit a slight coloring of the negative, which will offset the thinness due to over-exposure without adding so much bromide potash.

Thus, with one bottle and the dry pyro, most of the developing can be done. WM. BULLOCK.

390 Bond street, Cleveland, Ohio.

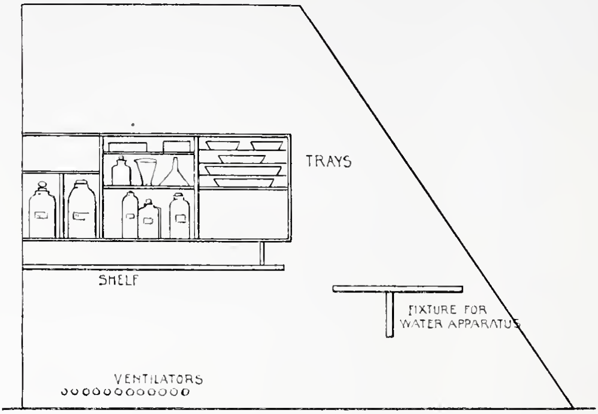
HOW TO MAKE A DARKROOM IN A BASEMENT.

THIRD PRIZE ARTICLE.

There are no doubt some ideas or plans better than those I am about to offer. Nevertheless the following description and sketches of a "basement darkroom" may prove useful to some brother amateur. The one I made gave me great satisfaction while I used it. I have a much better one now, but still cling to the same closet arrangement.

The "den" was located under the stairway. I couldn't have "running water" although I had a fair substitute. The room was well ventilated and of comfortable size. Having everything within easy reach, moving around to any great extent was unnecessary. The room itself was built of ¾-inch pine boards, tongued and grooved. I fastened a strip of wood 1 by 2 inches to the floor and from this ran the boards up to the stairs and landing. Only two of these walls were necessary, the stairs and building wall constituting the other two.

In the part under the landing, space was left for a door just large enough to allow a clear passage, and also a small space for the ruby window (Fig. 1). The side under the stairs was mostly taken up with the combination closet and developing table (Fig. 2). The closet was made of ½-inch white wood 36 inches long, 20 inches high and 10 inches deep. The front was made in two pieces, running lengthwise. The lower one when dropped to the position shown in Fig. 2 formed a very good developing table. This was covered with shelf oilcloth. The upper one was utilized for what might be termed a "reference board" on which were fastened developing formulæ, comparative tables of thermometers, density tables of liquids, and other information that could be of use in a darkroom.



PLAN OF CLOSET

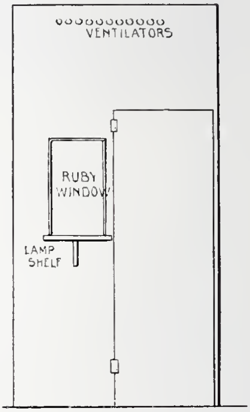


FIG. I.

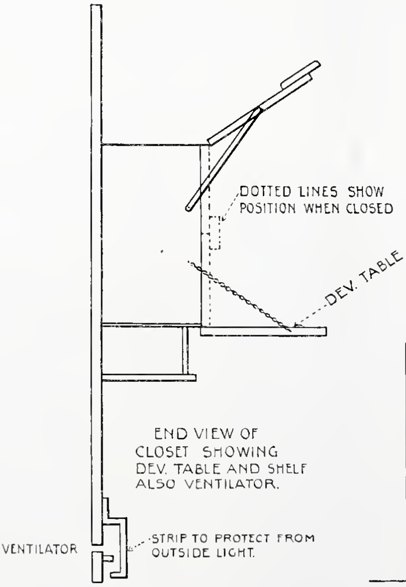
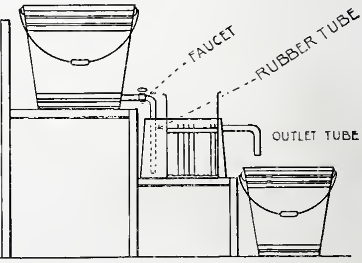

DOTTED LINES SHOW POSITION WHEN CLOSED
DEV. TABLE
END VIEW OF CLOSET SHOWING DEV. TABLE AND SHELF ALSO VENTILATOR.
VENTILATOR
STRIP TO PROTECT FROM OUTSIDE LIGHT.

FIG. II.

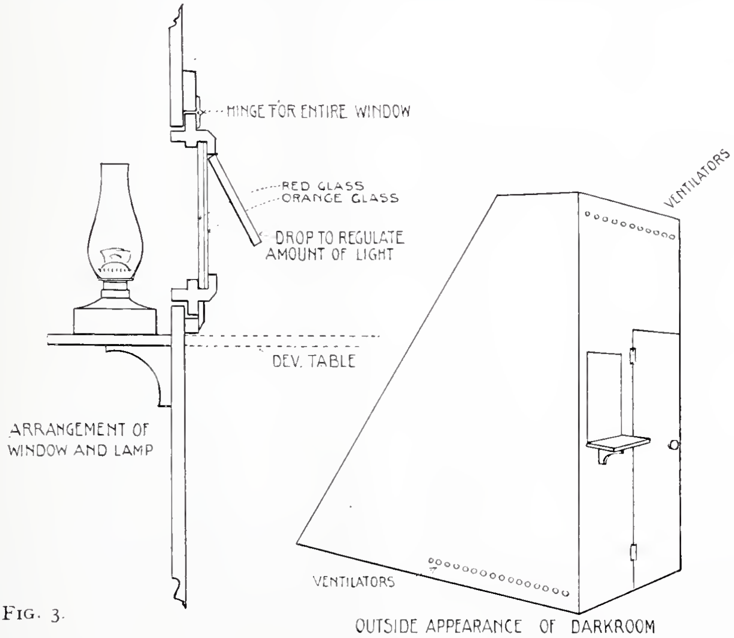


WATER APPARATUS.

Under the closet was a shelf where the plateholders could be placed after removing the plates to be developed.

The top of the closet was used for "stock" bottles, etc. For my dry chemicals, such as alum, hypo, etc., I used pint "Mason" jars which hold about a pound. For bottles containing liquids I used nothing but rubber or glass stoppers and wherever possible a different shaped bottle for each solution, always using the same bottle for the same solution.

For the window I used red and orange glass in combination. This could be opened to admit white light when desired. The lamp being outside of the darkroom, the heat and odor from a smoking lamp was avoided. Arranged in this way it had an especial advantage, more so in warm weather. The door was a simple arrangement with all joints broken.



ARRANGEMENT OF WINDOW AND LAMP

Fig. 3.

OUTSIDE APPEARANCE OF DARKROOM

For the ventilators I bored ten holes one inch in diameter through the wall and fixed the strips shown in Fig. 2 on the inside, the lower one turning down and the upper one turning up.

For the water apparatus I used two ordinary wooden pails and a peck measure, the latter heavily coated on the inside with shellac, making it water-tight. The water flowed through the faucet and rubber tube to the bottom of the measure which contained the plates, giving a continual change of water, and flowed from the top through another rubber tube inserted in a hole above the plates. The rinsing between developing and fixing was done in the upper pail, giving the plate a few rapid swishes through the water. The sketches, I think, will to a great extent explain themselves.

C. J. Korndorfer.
16 Broad street, New York.

A SAFE LIGHT.

May 8, 1899.

Editor The Photo-Beacon, *Chicago :*

Dear Sir,—In reading your comment on your "Literary Competitions" in the May number of The Photo-Beacon, I noticed that none of the competitors had sent in a description of a good safe light. I have one that, as far as I know, is original with me, so I will give it to you for the benefit of your readers if you wish it. It is made as follows:

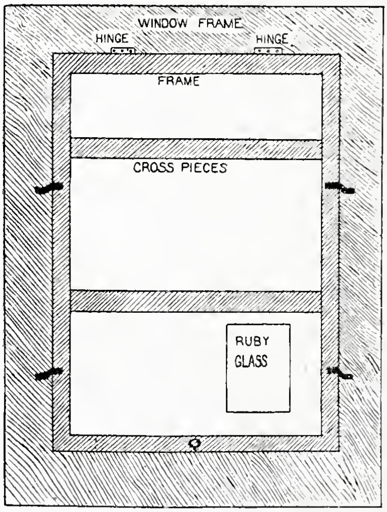
I had a window cut in my room on a level with my sink, about eighteen inches long by ten inches high. This

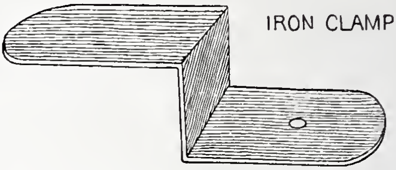
I had glazed; then I pasted a sheet of French tissue paper, No. 95L, that is orange colored; over that a sheet of No. 00, which is yellowish green; then a sheet of No. 155, which is ruby. I used an ordinary coal-oil lamp for my light, and when I used orthochromatic plates I put on another sheet of ruby. I have never fogged a plate with this window, and have used all kinds of plates. Hoping you can use this, I am

Yours, LEO D. HAAS.

A SIMPLE AND EFFECTIVE METHOD OF BLOCKING OUT LIGHT FROM A ROOM.

When utilizing a bathroom or other apartment as a darkroom, it is easy to fit a frame to the window and screw it to the woodwork, but its disadvantage is that the rest of the family complain of the nether darkness when they wish to use the room. The following arrangement will be found to obviate this difficulty; it is easily made, and is very effective. Make a frame from "slate battens" to fit the whole window-frame; strengthen it at the back by two cross-pieces, stretch over it two thicknesses of waterproof brown paper which is quite opaque. On the side of the frame which is to rest against the window-frame paste strips of felt; this will act as a buffer, and exclude all faint rays of light. Now hinge the top of the frame to the top of the window-frame. By fixing a hook and chain into the ceiling of the room the frame can be swung out of the way.





When in use it should be clamped by three or four clamps to the window-frame; these can be made for a few pence at any hardware store. They are conveniently shaped, as in the illustration. A hole should, of course, be cut in the brown paper for the insertion of ruby medium. Where the size of the room will permit, the hinges are better attached at the side. I find that by adopting this plan my bathroom is absolutely light-tight, and that by standing on the edge of a chair and unclamping the frame I can swing it up to the ceiling out of the way, and so let in daylight, which has made my family much more indulgent in photographic matters.

A. E. S.

SOME WIND.

"We are gratified to record the fact of a recent still further increase of our edition. The sales of our magazine when added to the number of copies acquired by our regular subscribers, has steadily grown, until, first we found we had no sample copies left for gratuitous distribution, then, that it was necessary to cut down the copies set aside for exchange purposes, advertisers, etc.; and finally, the subscription and sale of single copies continuing to increase, it became apparent that the only thing left them to do was to increase the size of our edition, once more. This was accordingly done with the result that the magazine now goes to a larger number of actual subscribers and purchasers than probably the entire paid circulation of all the other American photographic periodicals put together."

This is reprinted from one of our most valued exchanges, but it applies equally in our own case.

THE PRINTING ROOM

HOW TO MAKE A TONING TRAY.

SECOND PRIZE ARTICLE.

The toning tray should be large and deep, so as to allow the use of a large volume of solution — that is, large compared with a developing solution.

Negative by W. B. Dyer, Chicago.

If the prints are toned in a small tray or in a small amount of toning solution, they will not tone evenly.

The tray should be 8 by 10 inches, or 10 by 12 inches, and 2 or 2½ inches deep for prints of 4 by 5 or 4 by 6 inches size.

The prints should be kept in constant motion to insure even toning, and this cannot be done in a small tray, as they will lie one on top of the other.

I have never seen a tray suitable for toning in any of the photo-supply houses. For this reason, as well as on account of the expense of a large tray, I found it necessary to make my own tray for toning. This gave me such good satisfaction that I made all my trays in the same way for all purposes.

I procured at the planing mill some hardwood strips (rock elm, in my case), ½ inch thick, 2¾ inches wide, and about 10 feet long, already planed smooth. I then had them run over a circular saw ¼ inch from one end, and 3/16 inch deep; the saw was about ⅛ inch deep. This gave me a groove ⅛ inch wide, 3/16 inch deep, ¼ inch from the edge, running the full length of the strips.

I then went home and sawed the strips into lengths of 9 and 12 inches, two for each tray. These I nailed together as if for a box, 9 by 11 inches, inside measurement, with a groove all round the inside ¼ inch from the bottom. I left one end of the box or frame loose for the present. I then measured from the bottom of one groove to the bottom of the groove opposite, both length and width, the same as you would have for a window light.

I went to a dealer in window glass, and had him cut the glass the required size — in my case 9⅜ by 11⅜ inches. This I pushed into place in the frame and fastened the loose end on with four screws. The reason I used screws on one end was so that if ever the glass bottom got broken I could take out the screws, remove one end and take out the broken bottom and put in a new one, the same as putting the slide in a plate-holder.

When the bottom was in, and the end screwed on securely, I gave the wood part a coat of asphaltum varnish. When this was dry I gave it a second coat, being very careful to fill all the

Negative by W. B. Dyer, Chicago.

IN FAIRYLAND.

cracks where the glass slips into the groove into the wood, also the corners. This will prevent it leaking, and render the wood waterproof. Asphaltum is one of the cheapest paints there is. It is black in color, and is not affected by any chemicals used in picture making. If they should leak at any time, give them another coat.

The strips cost me 10 cents each, and each strip made two trays, or 5 cents per tray; the glass for the bottom, 8 cents each; asphaltum enough for six trays for 10 cents, making the price for a 9 by 11 tray about 15 cents. The dealer charges $1.60 for one of the same size.

Almost any carpenter could make the strips, as he could plow the grooves in with a carpenter's plow with a blade of the proper width.

I have four 9 by 11, two 6 by 8, two 18 by 26 trays, made in this way, and would not trade for any I ever saw. They have been in constant use for two years. The larger ones have double thick glass for the bottom, that is, glass twice as thick as ordinary glass.

W. Marshall.

24 South Porter street, Elgin, Ill.

Negative by W. B. Dyer, Chicago

EDITORIAL TABLE.

From **Burke & James,** Chicago, we have received samples of three of their latest specialties. First is the "Ideal" Platinum Toning in one solution, which is intended for producing platinum tones on all kinds of collodion and gelatin papers. We have tried it on Aristo-platino and find it works very well indeed, and have no doubt it will be as effective with other brands. The others consist of the "Ideal" Hydro-Metol Developer, and the "Ideal" Intensifier in one solution, both of which do very well in our hands.

Collins Manufacturing Company's Latest Card Mount Novelties.— We have been shown by the A. M. Collins Manufacturing Company a very handsome new card which is destined for panel pictures. It has the artistic Melton surface and is made in four colors — Scotch gray, royal brown, royal black and ivy green, and in sizes 6 by 12, 5 by 10 and 4 by 8¼. All four have matched beveled edges. In addition to the plain panel effect, the Scotch gray is also made with a very artistic and novel labor-saving idea, consisting of a white rolled insert. This is aimed to avoid the necessity of making the print by masking, in order to produce the narrow white mat or border, which is now so fashionable. So made, the Scotch gray card is is really a modification of the well-known "Tinto" card. To use this new card, the print is simply trimmed to a size slightly smaller than the white insert, and mounted evenly within it. A perfect narrow-mat effect results, without any of the bother of masking. This card also has the matched beveled edge, and is made in the same sizes as the plain panel cards.

From **Benj. French & Co.** there comes to hand as we go to press a copy of their latest Darlot lens catalogue. The Darlot lens is well known to photographers of this country as a first-class instrument at a moderate price, and we would advise those pondering the momentous lens question to send for a copy of this catalogue.

R. J. Golsen, Chicago, sends us a copy of his latest bargain list, No. 12. If you have not received a copy ask for it.

"**Our Bargain Vender**" is the catchy title of a bargain list issued by H. A. Hyatt, 410 North Broadway, St. Louis. Send for copy.

Taylor, Taylor & Hobson, Leicester, England, favor us with a copy of their latest lens catalogue. It treats very fully of their ordinary single and rectilinear lenses, and also of the various series of Cooke anastigmatic lenses. In addition, there are several interesting articles, including "The Principle of a Lens' Action," "How to Preserve Lenses," and a handy "Table of Conjugate Foci." Copies of the catalogue can be obtained from Max Levy, 1213 Race street, Philadelphia, Pennsylvania.

The Kodak Catalogue for 1899 has been forwarded to us by the Eastman Kodak Company. The outside cover is especially attractive, being a very perfect reproduction of a daguerreotype picture in orthodox case, which makes a very attractive and handsome cover. The contents consist of a complete statement of kodak specialties, the latest being the panorama kodak, which enables one to include a field of view of almost half a circle. The book is very handsomely got up.

From **N. Watry,** 99 East Randolph street, Chicago, we have received a copy of catalogue for 1899, which contains a very complete list of goods in demand by amateur photographers.

"**The Half-Tone Process,**" a small book issued by the Scovill & Adams Company, descriptive of their Hago Holder and Screen, by means of which they claim any photographer can make good half-tone negatives, as the rules that control the difficulties as to copy, and to obtain any desired result, are fully explained, and we would recommend it to any of our subscribers who are interested in this method of illustration.

THE PHOTO-BEACON.

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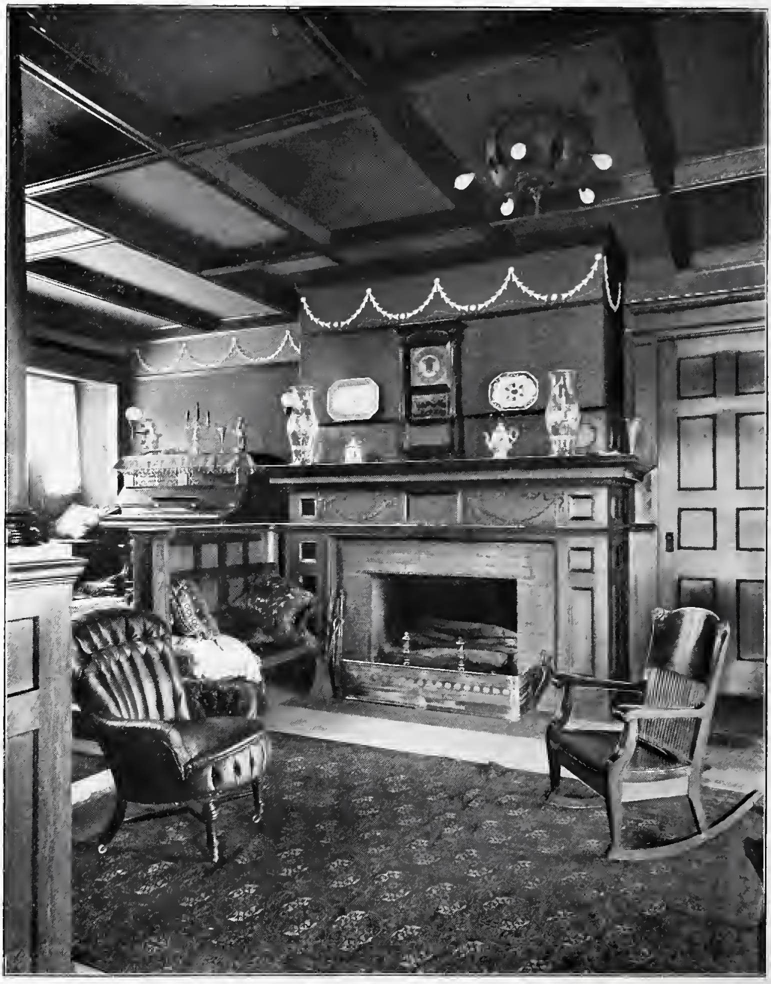

Negative by C. L. Green, Richmond, Ind.

FIRST PRIZE

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. AUGUST, 1899. No. 8.

EASTWARD, HO!

JUNE 30, 1899.

As I write this the good ship "Umbria" is on the open ocean, the nearest land being at the bottom of the sea, which is presumably somewhere between half a mile and a mile of us. The nearest shore line is Ireland, from which we are distant about four hundred miles. We expect to be at Queenstown about breakfast time tomorrow, so we have been instructed to see that we get all our letters and telegrams ready before 10 o'clock tonight, so that they will be sure to be ready in the morning.

The voyage has been a pleasant one so far. For five days out we had a beautiful summer sea, and it all looked as if we were taking part in a pleasant summer sail. Seasickness was practically unknown, only those who are chronically bad sailors having suffered. I am sorry to say that among the last I have to include one of my own children, a boy nearly nine years old, who has suffered from the very start right up to the present moment, and who to all appearances will fast from the beginning of the journey to the very end. Everybody on the staff of the steamer is kindness personified, but it is of no avail, his stomach refuses to become accustomed to the vibration of the ship, due to the thumping of the engine. We are not exactly surprised at his condition, as he behaved exactly the same way when crossing six years ago, but we did hope he might be different this time.

As we approach the old country conditions have changed, and today the ship is rolling very decidedly. Big waves are chasing each other all around us, and loose articles on board ship go "skating" without a moment's warning. As I write a couple of boys are sitting playing checkers, and a sudden lurch of the ship has sent board and men flying across the room, the little boys looking on with amazement. Whir-r-r-r-r-rump, the propeller is out of the water, and is racing at breakneck speed, shaking the ship from stem to stern. Luckily, most all of us have found our sea legs, and the change is rather welcomed than otherwise.

My four-year-old boy is very much interested with his surroundings, and keeps us amused with his comments. The foam on the waves took his attention very early. He called it soap suds, and said "The fishes are washing down below, maybe." At breakfast this morning he left our table to go to the other side of the ship, because that side tipped up, and then came back disgusted because it had stopped, and our own side was now tipping.

We have a jolly crowd on board, representing every nation in Europe, most going home to visit the old country. All appear to have done well in the land of their adoption, but are anxious to once again see the old faces and the old scenes. With some it is the first visit in forty years, with others it is the third and fourth trip in almost as many years. One family, which includes three young children, are from Mexico, and this is the forty-sixth day since they started. They expect to end their journey at Johannesburg, South Africa, so that they are little more than half way on their journey. Sitting next me is a big broad-beamed Hollander growling out songs of his fatherland. He knows no English, but has been to Chicago to buy horses. Next him is an Englishman, who farms in Ohio, where he raises 5,000 bushels of potatoes every year. The first day out he remarked: "If we could drain off this water, couldn't we raise a mighty lot of 'taties' on the land."

The young folks seem to have pretty good times, and spend the time singing songs and choruses. One young gentleman professes palmistry, and has had the satisfaction of holding the hand of every young lady on board. He is very witty, possessed of a ready flow of language, so his corner is exceedingly popular, and he helps many of the passengers to pass an otherwise monotonous time very pleasantly.

Your humble servant has done very little. For three days it was a positive treat to sit round and do nothing, a pleasant change from the rush and scurry of seven years. But now I would not object to be on land where my movements would not be so circumscribed as they are here.

I expect to visit the British convention which will be held at Gloucester, from July 10 to 15, and will probably have something to say about it in my next. F. DUNDAS TODD.

STARTLED.

OUR ELEVENTH PICTURE COMPETITION.

Although a large number of prints (over one hundred) were sent in, the result is most disappointing, as they were as a rule deficient in pictorial qualities. The judges had great difficulty in deciding upon the prize-winners, as the quality of the work was decidedly poor in artistic merit.

This is not as it should be, for the study of interiors is one that ought to engage the attention of the amateur photographer above all things; first, because when well arranged they make most pleasing pictures; then they do not require the time to seek for that landscape compositions do, as most amateurs have them in their own homes and the best effects of lighting, etc., can be studied at leisure. However, while regretting that this competition is not up to the standard we expected, the judges have awarded the prizes as follows:

First Prize—C. L. Green, Richmond, Indiana.

Second Prize—Carl C. Distler, Cleveland, Ohio.

Third Prize—Frank Eliot Smith, Philadelphia, Pennsylvania.

FUTURE COMPETITIONS.

Competition No. 13—Flower pictures, single plant or spray, with especial reference to decorative effect; closes August 31.

Competition No. 14—Water scenes; closes September 30.

Competition No. 15—Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16—Instantaneous work; closes November 30.

Competition No. 17—Landscapes; closes December 31.

Competition No. 18—Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19—Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

LITERARY COMPETITION NO. 4.

There were a round dozen competitors in this competition and it was pretty difficult to decide as to the prize-winners. There was a considerable amount of sameness in the methods used by all, but we have chosen the three with the greatest differences and those that enter into the little details.

Not one of the competitors, however, mentions a method (known to photographers who do a large commercial business) of mounting to retain the gloss and yet have flat prints, and that is simply to back the print with what is known in the trade as backing paper.

This paper is the same as is used for the emulsions, except that it is coated with plain hardened gelatin, the consistency of the sensitive emulsion. This is placed in water, so that it swells the same as the print, and after the print is squeegeed on to the ferro plate it is pasted with thick paste and the backing paper squeegeed, with the *gelatin side out*, on to the prints and both allowed to dry together, when they will leave the plate perfectly flat and with the gloss undiminished.

The prize-winners are:

First prize — Alfred L. Flude, Springville, Iowa.

Second prize — Fred A. Grant, Toronto, Canada.

Third prize — L. A. Olsen, Salt Lake City.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 6.—How you made the biggest photographic mistake of your life — and its consequences. Closes August 15.

No. 7.—Copying photographs. Closes September 15.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible. Closes October 15.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas. Closes November 15.

No. 10. How to utilize photography as a hobby during the winter. Closes December 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to THE PHOTO-BEACON.

THE SQUEEGEED PRINT.

FIRST PRIZE ARTICLE.

The greatest difficulty in securing a perfect squeegee print is in the mounting, as the paste used is almost certain to destroy more or less of the gloss. The squeegeeing I have never found to be difficult. I use a ferrotype plate and the first requisite is to have it perfectly clean — a lesson that needs to be impressed upon one at every step of photography. A little soap and warm water will clean the plate, after which it should be wiped dry and polished with a clean cloth. The well-known formula of benzine (or gasoline) and paraffin is as good a polishing solution as I have found. (I use half a teaspoonful of scrapings from a wax candle in 2 ounces of gasoline.) A few drops of this on the plate, rubbed entirely over and then polished off, leaves the plate in the proper condition.

Lay the wet print, face down, on the plate. Roll it with a roller until in perfect contact, being careful that there is not a single bubble between the print and the plate. The rolling can be done nicely with a print roller, but a lead pencil, or any other roller, will do as well. Leave the plate in a dry place until the prints are absolutely dry, when they will peel off easily. I find that trying to force the drying by putting in the sunlight or near a stove has a tendency to cause prints to stick. If the polishing solution is not wiped cleanly from the plate, it will leave a greasy film on the print.

As to mounting, I found a pleasing way, especially for squeegee prints, was as follows: I purchased several sheets of six-ply photo-mounting board and the same number of "Fancy Embossed Board," at the printing office, and had them cut them, all together, in the cutter, to the exact size I wished my mounts. I fastened the squeegee prints to the mounts by gluing prints at the corners. Then I cut openings in the embossed board, a little smaller (say, ⅛ of an inch) than the print, and glued it so as to form a mat around the picture. For round openings, I tacked about twenty-five or thirty of the embossed cards on a square block of wood, tacking only in the center. I then centered the block in a lathe, in a neighboring carpenter shop, and cut out the center with a chisel in a few moments. Sometimes I use a pair of dividers, one leg of which I sharpened with a file, and cut out the mats one at a time in that way, and occasionally vary the design by trimming the edge with a round chisel. Star designs, crescents, shields, leaves, etc., are very easily cut out with a knife and very pleasantly vary one's collection.

Another pleasing variation of this style of mounting is to fasten mounts together. Lay mounted pictures, before mats are glued on, side by side, leaving ⅛ inch between cards. Carefully dot some glue down each edge and fasten a ribbon to act as a hinge between the mounts. Then glue on the mats. In this way you can neatly fasten your pictures in groups of any size.

The cost of such mounts is not over 15 cents a dozen for 4 by 5 pictures, and by their use any roughness caused by fastening print on the mount is completely hidden. Alfred L. Flude.

Springville, Iowa.

NINETEENTH ANNUAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, CELERON, CHAUTAUQUA LAKE, NEW YORK, JULY 17 TO 22, INCLUSIVE, 1899.

We must congratulate Secretary Sperry upon the promptness with which he got out the first day's proceedings of the convention, so that we are enabled to give our readers a condensed account of what took place on the opening from the official report of the proceedings.

The convention was called to order at 10:30 A.M. by President F. W. Guerin, of St. Louis. The address of welcome was delivered by the Hon. A. C. Wade, of Jamestown, who kindly consented to act in Mr. Sheldon's place, he being absent through sickness. Mr. Wade's remarks, which were most happily to the point, were loudly applauded. The secretary read a letter from Mr. Todd, the editor of The Photo-Beacon, in which he expressed his regrets at not being able to be with the members, but said that he intended to be present at the British Photographers' convention, which would meet at Gloucester from July 10 to 15, and while there he would convey to that body the good wishes of the Photographers' Association of America, and that in so doing he felt that he would be rightly expressing the feelings of the members. Other letters of regret were read, and President Guerin delivered his annual address, the purport of which was to deprecate the placing of artistic effect above the chemical effect. He stated that if in a case of two productions, one deficient in art qualities but perfect in chemical effect and photographic detail, and the other a reverse, a subject beautifully posed, faultless in art principles, but lacking in detail, blocked shadows, void of gradations, or, in fact, lacking in chemical photographic effect, he should rate the first higher, and consider it so entitled, for the reason that in chemical effect lies the science, skill and art of photography. The president's address was applauded, and he then introduced Mr. G. H. Hayes, who spoke a good word for the amateur, who, he stated, we must admit had popularized photog-

Negative by Jacobs, Oelwein, Iowa.

I WON'T BE GOOD.

raphy. In concluding a very interesting and instructive address, Mr. Hayes called attention to the fact that on a recent visit to Washington and the Congressional Library, that grand monument to the heroes of art and literature, he saw the names of the most famous authors, historians, novelists, poets and men from every field of the art work, but nowhere was the name of Daguerre— who made such a convention as the Photographers' Association of America possible — the one to whom we must all look back for inspiration for the future. He asked why his name was not there, and no one seemed to know. Just neglect, and neglect that we should no longer permit to exist. He was pleased to find, however, that photography was not entirely unrepresented at the Capitol, for just outside the Smithsonian Institution was a heroic monument to Daguerre. This was as it should be, but he thought that photographers should insist upon having Daguerre's name in the Congressional Library.

The president then read a programme of entertainment at other than business sessions of the convention, as follows:

Monday evening.—Informal reception to the officers and general hand-shaking at Kent House, Lakewood. Informal hop, Professor Jamison's orchestra.

Tuesday evening.—At 8 o'clock, Professor Taft's lectures on "Famous Portraits," at the Convention Hall, at Celeron.

Wednesday evening.—Theater party at the Celeron Opera House at 7:45 P.M. sharp; compliments of the American Aristotype Company.

Thursday evening.—Grand Ball, Feast of Lanterns, and Lawn Fête, given by the citizens of Jamestown at Kent House, Lakewood, at 8 o'clock. Grand march from the Kent House to the Waldmere Hotel, led by Celeron Military Gold Band, at 9 o'clock.

Friday afternoon.—Grand steamboat excursion by special steamers, making a cruise of the upper and lower lakes of Chautauqua, returning to Lakewood, where a genuine New England clambake will be served.

Friday evening.—Grand fireworks at Celeron; compliments of the Celeron Amusement Company.

A committee of three was appointed, of which Mr. Hayes was appointed chairman, and Mr. Rockwood a member, the other member to be appointed by the president later on, to carry out Mr. Hayes' suggestion as to the placing of Daguerre's name in the Congressional Library. Upon request of Mr. Rockwood his name upon the programme for Friday, July 21, was changed to July 19, it appearing that Mr. Hollinger, who had been assigned a similar subject for Wednesday, would not be present.

Negative by W. S. Weeks, Litchfield, Minn.

"ANIMAL ABUSE."

THE PHOTOGRAPHERS' ASSOCIATION OF OHIO.

On August 30, 31, and September 1, the Photographers' Association of Ohio will hold its ninth annual convention at Hotel Victory, Put-in-Bay Island.

We have prepared the most interesting and instructive programme ever presented to a convention of photographers. Two eminent artists will lecture and be in attendance constantly for individual instruction and criticisms.

There will be no public criticisms of pictures, as at former conventions; instead Mr. Otto Walter Beck and William J. Edmondson, artists of note, will give public criticisms among the exhibits during the three days of the convention.

The salon will be more interesting than ever. Pictures retained by the salon will be framed at the expense of the association in the future. The pictures retained from previous exhibitions have been suitably framed.

The most interesting features on the programme are:

Lecture by Otto Walter Beck. Subject — Art Composition Useful in Photography.

Lecture on Color Photography, by Henry M. Ladd, D.D., illustrated by stereopticon.

Practical demonstration of photography in color by G. W. Edmondson.

Demonstration by the Aristotype Company, Willis & Clements' Platinum and Velox.

The question box will be opened and contents discussed at every meeting.

The hotel orchestra has been placed at the disposal of the Entertainment Committee, and they promise us a good time.

Committees from the Indiana and Michigan Association will meet us to discuss the question of forming a tri-State association. There will be a large manufacturers' exhibit, and the photographers' exhibit promises to excel that of previous conventions.

There is no more beautiful spot for the convention than that of Hotel Victory — it is just the place to bring one's family and spend the vacation. The special rate of $2 per day has been secured. There are places on the island where good board can be had at $1 and $1.50 per day.

We extend a cordial invitation to all photographic friends in other States to meet with us. Fraternally yours,

George M. Edmondson,
President.

A PAINTER'S VIEWS ON PHOTOGRAPHY.

In giving you a few impressions that a photograph makes on a painter I wish it to be distinctly understood that I only speak from a *picture* point of view; that is, the impression it makes on a painter as to its value as a work of art. It will therefore be readily understood that what is called a good *technical* photograph receives very little sympathy from a painter. Not that a painter is blind to the difficulties to be overcome to produce a really good technical photograph, but simply that it does not appeal to his sense of the artistic; and as this article deals with the impression caused by a photograph on a painter, I shall for the present have to wish technical photographers a respectful good-day, as that class of photography has left no impression whatever on *this* painter.

I should like to remind those who practice artistic photography that the qualities of mind required to produce a work of art are two — the power of design and the power of imitation.

The power of design, again, is of two kinds, constructive and ornamental.

The ignorant person observes in a picture that sunset is represented, for he sees the sun and red clouds in the sky. The picture may be without a single point given correctly, but the fact of the sunset is made clear. What does he know of the relative values of tone and truth of perspective, aërial or lineal, etc.? Again, he stops in his aimless wandering to look at your sketch, and stands amazed at what appears to him to be the truthfulness of what is possibly but a very feeble attempt at nature. It is enough for him that you have got in the proper number of trees and bracken stalks and approximately correct positions. If you aim at nothing but the literal representation of commonplace matter, never caring to look for any form of beauty in nature and making other matter subordinate to it, then I am afraid you do not yet possess the power required to produce or even appreciate a work of art.

The imitation or copying of nature appears to be the main object in most photographs. In the result you have the very ordinary print, sharp in every detail, false in all respects to tone value and any sense of air — a picture where the light on tree, bracken, grass and stone are represented with white; and when you come to the sky, that also has to be represented with white. This is not art, neither is it nature, for I think all will admit that the sky is much the brightest light we have in nature (except in exceptional cases), it therefore can not be nature if it is so false in tone value.

Photographs should *not* depend for their success on the facts represented in the picture, but on the art which is expended on producing them; facts which are told in a cold manner fail to awaken the sympathies of a painter.

Truth compels me to say that many workers in photography are only exercising a mere imitative or technical skill, and may thus be led to ascribe to it an artistic value it does not possess. This is well illustrated by seeing a picture (photograph) in your friend's studio and seeing the same print in an exhibition; in his studio it looks really well, but when a number are brought together in an exhibition the fact forces itself upon you that they lack that individuality which is of the utmost importance in a work of art.

Picturemakers should not allow themselves to be led by the methods adopted by other workers or by the opinion of the public, but should themselves lead the public to the better appreciation of the possibilities of art.

I should like to point out to photographic workers that, in my opinion, they adhere too closely to the rules that govern photography. I do not think photographers need be half so much bound down by their tools (camera, etc.) as they think they are; they should endeavor to use their tools in the same manner as a painter uses his brushes, knife, fingers, rag, etc.—merely as a means of recording a thought or impression made upon him by his subject. I think they run too much in ruts and follow each other too blindly, and pay far too much attention to baths, developers, clearing solutions and such like, although I must confess that there is now a decided move in the right direction and a desire for something more serious. We must, I think, in the first place rely on the cultivation of our perceptive faculties to show us the higher beauties that lie beneath the surface of nature; we are not concerned only with the external beauties, which are obvious to all the world, but with those also which underlie the surface and which only the mind of the artist, stimulated by continued study, can discover. The insight to the truths of nature coming partly as a gift and partly acquired by the closest and most continual observation, combined with the power of expressing such knowledge, is what I understand the power of realism to be, and those truths are what the uncultivated can not see, they are to be found only by those who diligently seek after them. We must therefore learn and understand the beauties of nature, for without understanding, genuine appreciation is impossible, and without study understanding is impossible.

Negative by W. A. Berry, Manson, Iowa.

NEWS FROM HOME.

An old fence or broken railing is quite sufficient to make a picture if it is produced with due regard to tones which pervade nature, but a mere portrait of a fence or broken railing is not sufficient. It may be all that is necessary in a still-life group, but in a portrait or landscape something more is required; we require that feeling of life and movement that is in our subject. I do not wish to draw too much comparison between painting and photography, but the following illustration may explain my meaning of what photographers should endeavor to get. You put an artist and photographer to make a portrait of a given person. The photograph will be accurate in outline and will record the features and costume; the painting will give you a feeling of life and movement and all the nobler characteristics of the subject, but *not necessarily* a correct outline; the painter gives you the *spirit*, and endeavors to ennoble his subject by the treatment, while the photographer only gives you the cold letter of fact.

Now, I feel sure if photographic workers would only give more thought before exposing a plate as to what the result is they want, we should get more individuality in their work. I quite think that camera-workers have as much individuality as painters, but they do not appear to use it. You can tell the painter of a picture without looking at the catalogue. I should be pleased to see more of this in photography.

Nature is too subtle to be reproduced entirely by mechanical means, and must have the worker's impression carried out in the result if it is to be a work of art. In making a picture, the worker should endeavor to grasp the feeling of the effect, and in the developing or printing to look for and retain those points which most carry out the original impression. All nature is not beautiful, and the worker must select his subject with this in his mind, and must use the usual means at his disposal to this end. Let him use all and every means by which to place his thought or impression on paper.

I am aware that some photographers object to the "faking" of plates or prints, contending that it is not photography to do so.

They are right; but if a person *uses* photographic means or materials to produce a "work of art," and he is sole partner in its production and does not enter into any partnership with his camera, etc., then it is a creation of his own; he only uses a piece of paper or glass as a painter uses his canvas as a means to an end.

My advice to those who aspire to produce something more than a mere view is to *fake* by all means.

W. EDWIN TINDALL, R.B.A.

A NOTE ON THE ABOVE.

While the foregoing article from the pen of one whose keen sympathy and appreciation of nature is shown in his well-known pictures of Birch and Bracken, yet we feel we should point out that it is an expression of a painter's opinion of photography from a painter's point of view.

The absolute freedom to "fake" which Mr. Tindall would give the artistic worker is a most dangerous liberty, and in the majority of cases much more likely to produce disaster than artistic success. It may be perfectly good and safe advice for the man bent on producing a picture irrespective of what means are employed, but it also presupposes ability on the part of the worker to use brush or pencil with some degree of efficiency, an assumption by no means borne out by fact.

Once let the beginner or less expert photographer cultivate an easy conscience as to the use of handwork or other auxiliary means, and he will more than likely cease to take pains to make his photography as perfect as may be, saying at every difficult point, "Never mind, that's near enough; I can 'fake' the rest."

If we adopt photography at all for the production of a picture, then must we use it to the very utmost that its powers and a consummate knowledge and skill of those powers make possible, and if the result is satisfactory then it would have been no more so had we "faked" and altered here and there. Too often it appears as though the photographer had willfully imparted some amount of handwork to plate or print, as though supposing that by so doing he was necessarily contributing additional artistic merit thereto. We should like to give it as a guiding principle for the less experienced worker that nothing should be done on plate or print by alien means that could have been done by photographic means, and that nothing should be introduced — no light, no shade, no effect — that might not have been done by purely photographic means had we possessed the required skill.

Working inside these rules, the student will not go far wrong, but, with his lack of training and absence of art knowledge, it were all too perilous to give him in his craft the freedom of practice which the painter may enjoy in his. With the general principle laid down by Mr. W. Edwin Tindall we can agree, but for practice we offer it with a caution, remembering there are few but will take an ell for every inch granted, and we have no wish to see good photography buried under the cheap and adventitious effects of a mixed method—not even in pictorial work.—ED.]—*The Amateur Photographer.*

TO CHANGE THE COLOR OF P. O. P. PRINTS AFTER FIXING.

It often happens that, through overtoning or other causes, gelatin prints are far from pleasing, as far as tone is concerned. This difficulty can, however, be overcome, even after fixing, in the following manner: After washing, allow the print to dry; then hold the gelatin side next the stroup of the kettle, first seeing that the water has been brought to the boiling point. It will be found that in a few seconds the color of the print has changed to a pleasing pinkish color. E. D. E.

LACQUER FOR BRASS.

Gamboge	22 grains
Aloes	66 grains
Shellac	452 grains
Wood alcohol	16 ounces

The metal must be *absolutely* clean and brilliant, and is then coated with the lacquer (using a camel's-hair brush) and put in an oven for a minute to set; this is the "cold" method, and the simplest. The "hot" method is better for small work; heat the article thoroughly, and quickly apply the lacquer.

HOW TO MAKE A TONING TRAY CHEAPLY.

THIRD PRIZE ARTICLE.

A very cheap and easily constructed, yet serviceable, toning tray may be made of wood and then coated with asphaltum varnish. This varnish is perfectly impervious to water and seems to have no effect on the toning bath.

To make such a tray, procure some ⅜-inch lumber. That which one may get out of a Lenox soap box, procurable of any grocer, is just about the thing. It is made of basswood, does not split so readily as pine, holds the nails better and is just as light.

Cut the box apart at the corners, and with a saw rip out four strips, for sides of tray, 2½ inches wide, or the depth you wish tray to be. Plane both sides smooth. Now, to make a tray with flaring sides and yet make water-tight joints may seem a little hard for some, but it is easy enough if you go about it in a systematic way. I made three last winter without the least bit of trouble with their leaking.

The first thing necessary is a miter box. What is that? some may ask. It is simply the bottom and sides of a long, narrow, shallow trough, made by nailing three boards together. Now take a fine-toothed saw and cut horizontally across the trough at an angle of about seventy degrees, and perpendicularly at an angle of ninety degrees; be particular about the ninety-degree angle but let the other take care of itself.

The miter box being done, take one of the strips for the sides of the tray, lay it down flat in the box, and, using the cut in the box as a guide, saw off the end of the strip; reverse and cut the other end of the strip, making it as long as the tray is desired. Proceed in the same manner to cut the other side and the ends, being sure that the two sides are exactly the same length and the ends the same. Fasten the strips together with slim nails as you would a box. Then plane the edges; beginning at one side, take off a shaving; then the end, then the other side, then the other end, going around the edge this way until the bottom edges are perfectly flat and even, thus making a tight joint where the bottom is put on.

Take a board of sufficient size for the bottom, plane smooth on both sides, cut a trifle larger than is necessary, and fasten in place with nails, putting them about two inches apart all the way around. With a nail-set, go over the whole tray and drive each nail head an eighth of an inch below the surface. Now, with plane, smooth off all projecting edges and finish with sandpaper.

Procure of a dealer in paints, etc., one-half pint of asphaltum varnish, and apply three or four coats to the tray inside and out, letting it dry a day or more between coats. The varnish should be thick enough to fill up all seams and make them water-tight. If you have made one seam that is worse than the rest and persists in leaking, give it an extra coat of varnish, using it quite freely, then set the tray to dry in such a position that the varnish cannot flow away from the seam. Quite a bad fit can be made water-tight in this way.

The last coat of varnish should have three or four days in which to harden before it is put into use; then, while I do not know as it is necessary, yet as a precautionary measure, I wash the tray thoroughly before using the first time. To wash, set it under faucet and turn water on over night, or several hours at least.

A 12 by 16 inch tray of this kind does not cost over 10 cents — with material enough left to make another; and, aside from varnishing, two hours' work is all the time needed.

James E. Taggart.
Lewis Center, Ohio.

Negative by Carl C. Distler, Cleveland, Ohio.
SECOND PRIZE.

As our art is not a divine gift, so neither is it a mechanical trade. Its foundations are laid in solid science, and practice, though essential to perfection, can never attain that to which it aims unless it works under the direction of principle.—*Reynolds.*

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

X.

(Copyright, 1898, by F. Dundas Todd.)

"No woman can be handsome by the force of features alone, any more than she can be witty only by the help of speech," says Addison, and true indeed is the quotation, for the form of the face and the features are but the groundwork of expression; and it is the purpose of this chapter to treat of those conditions of mind which are considered under the head of the passions — sentiments or emotions. It is not necessary to inquire into the sources of these emotions, merely remarking that the capacity of expression is bestowed as a mark of superior intelligence understood by all — that bond which proves the kinship of the great human family — namely: pleasure, pain, fear, despair, rage, remorse, admiration, grief, terror and joy, are all expressed in the countenance by a set of muscles which are put there just for that particular use.

Of course, it is not always possible to make from the facial expression of a living subject an exact analysis of the character, but certain it is that there is an accentuation of certain traits indicative of the passions that most frequently disturb him, and can so modify the character of the face as to leave imprinted thereon the sentiments which have most frequently agitated him.

Now, although, as I said, it is not always possible by such an analysis to arrive at the exact character of a person, yet on the other hand the determination of expressive character impressed on the face from the contraction of this or that muscle has become a well-known study in which is embodied a considerable amount of certainty and precision, and it is my intention here to briefly show how, by the contraction of a few simple muscles of the face, this or that expression can be obtained at will according to the needs or desires of the sitter; and the photographer, having thus a general idea of how the different expressions are obtained, has in his hands a means of intelligent suggestion for the correction of overstrained appearance in his model.

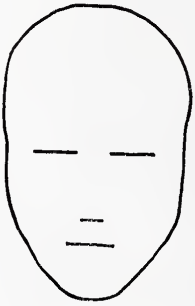

Fig. 65.

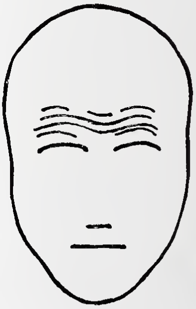

Fig. 66

To begin with, we will take the figure as it sits directly facing us, with the face in perfectly blank repose, as expressed by the diagram in Fig. 65. Now, if the entire face remains the same with the exception of the raising of the eyebrows we have an expression of attention; and if the eyebrows are still further raised, furrowing the brow, then astonishment is the principal idea expressed. Fig. 66. In a child or young woman, in whom the skin is supple and elastic, it does not give rise to the formation of folds, so the skin of the forehead remains quite smooth and the expression is given by the elevation of the eyebrow, the exaggeration of its curve, and the state of the eyes — open and bright. In Fig. 66 you see a representation of attention solely by the form of the eyebrow and the frontal folds. On the contrary, when the forehead is free from wrinkles, the eyebrow lowered and the eye veiled by the lids we have a representation of reflection, and if the reflection is deep then there are added two small vertical folds between the eyebrows as in Fig. 67. Menace can best be expressed by the drawing down of the head of the eyebrows and the production of short transverse folds in the space between — Fig. 68.

In the expression of sorrow or pain the eyebrows are drawn up from the head and gathered abruptly at the middle, and by the presence of short folds concentric to this gathering together of the eyebrows and situated in the middle of the forehead. Fig. 68.

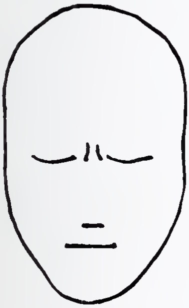
Fig. 67.

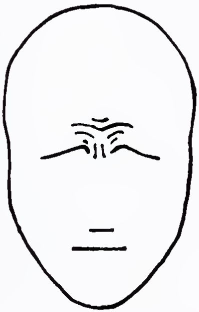
Fig. 68

You will note that all the foregoing expressions have been produced solely by the changes of the eyes and eyebrows, and although the ideas thus conveyed can be strengthened by the position of the body, yet the idea is to present the expressions themselves from their foundation without the necessity of any auxiliary help from any other part of the body. We shall now take up the expressions which are governed by muscles which lie in the middle region of the face (the names of which are entirely unnecessary to the photographer).

In the representation of gaiety and laughter the changes only take place in the line of the lips, which is enlarged transversely and pulled up at the corners, wrinkling the skin into a curve from the nose to the corners of the lips, and also wrinkling the skin at the outward corners of the eye. Fig. 69.

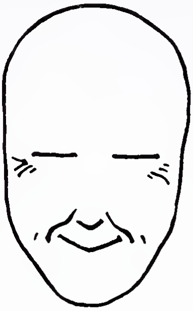
Fig. 69.

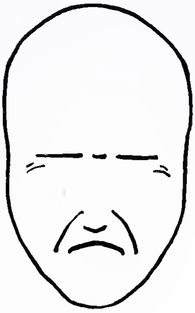
Fig. 70

In contrast to laughter and gaiety comes grief and sorrow, which is expressed by the raising of the middle of the lip, the corners remaining drooped, the drawing closer together of the eyebrows, and the furrow formed on the cheeks by the drawing upward of the center of the lips — exactly the reverse of laughter. Fig. 70.

You will note that, simple as are these diagrams, yet they undoubtedly express just what they are intended to do, and also that even although the eyes in each one are merely expressed by a straight line, save in the first two, yet the fact that the expression is evident is conclusive proof that those expressions are formed as thus stated, and when the photographer sees that any particular expression is unsuitable he can make an intelligent suggestion for its correction, because he will have a general knowledge of its production.

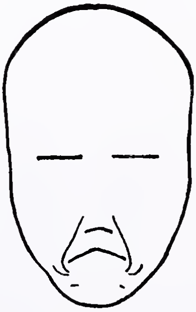
Fig. 71.

From the muscles situated in the lower part of the face, we have the expression of "pouting," which is produced by tightly closing the orifice of the mouth — pressing the free border of the lips against the teeth, which cause the rosy and fleshy appearance of the lips to disappear, and producing that expression commonly called "biting the lips," or by contraction of the orifice of the mouth and the projection forward of the lips we have the "pout." Neither of these expressions can well be shown in a diagrammatic form, because the action is but slight and local.

Discontent or contempt is expressed by the partial closing of the eyes, the pulling down of the corners of the mouth and the furrows caused by that pulling down, together with a dilation of the nostrils, of which Fig. 71 is the graphic formula. In disgust the same directions hold, with the addition of a depression of the lower lip and a turning outward of the same, an expression always more or less rude. These are the "skeletons of expression," as it were, by line, but there are many others which are portrayed by a combined action of several muscles at the one time, and which depend also upon the inclination of the head, and we shall briefly glance at those in our next.

R. JAMES WALLACE.

HOW TO MAKE A STOCK DEVELOPER.

SECOND PRIZE ARTICLE.

I give herewith my favorite formulæ for developing very full-exposed, even slightly over-exposed plates. The results sought for are good detail, a tolerably dense and contrasty negative, with fine gradations of light and shade. This last result must be got by long exposure and slow development.

My method of preparation is as follows: First, I have a large-stoppered, 100-ounce bottle for dissolving the chemicals, and a first necessity is also a pair of fine apothecaries' scales. I put in the bottle 64 ounces of hot distilled or pure well water. In this I put 125 grains eikonogen, and shake until all dissolved; then add 300 grains hydroquinone, and shake until dissolved. Next comes the sodium sulphite (crystals), of which I take 8 ounces (measured in a graduate fluid measure). I shake the bottle until thoroughly dissolved. This composes the first solution. I put this while still warm in 2-ounce bottles nearly full to the cork, and cork the bottles tightly. In this condition the solution will keep months, and not oxidize or lose its strength. I then label each bottle.

The second solution is the carbonate of potash solution. A convenient amount of this to make up at a time is 32 ounces cold well water and 4 ounces carbonate of potash, put in 2-ounce bottles (after being thoroughly dissolved) and labeled.

For use I find the following combinations satisfactory. For full-exposed landscapes, where the light is strong, I use (for 4 by 5 plates):

Solution No. 1	1½	ounces
Solution No. 2	½	ounce
Water	3	ounces

For indoor portraits and flash-lights and snap shots I use:

Solution No. 1	2	ounces
Solution No. 2	¾	ounce
10 per cent bromide solution potassium	5	drops

Either one of these mixtures will develop six to eight plates; can be kept in a 6-ounce bottle and developed four or five plates in four or five days' time, though I think it is always better to use fresh developer. E. M. MILLER.

3621 W. Grand ave., Des Moines, Iowa.

HASTE YE!

There are many pretty little proverbs in the English language which tell of the evil which will happen to the man in a hurry, and these proverbs apply to none with so great a force as to photographers, but there are times when the photographer — and particularly one who works for the press — must get out a finished print from an exposed but undeveloped plate at very short notice, and to such I hope the following hints may prove useful.

It is of primary importance that the action of the developer should be rapid, and I recommend the use of the following single solution, which acts equally well for plates or bromide paper: Metol, 50 grains; hydroquinone, 40 grains;

Negative made with the Panoramic Kodak.

sulphite of soda, 500 grains ; potassium bromide, 25 grains ; sodium carbonate, 500 grains ; water, 20 ounces.

This keeps well, may be used repeatedly, and does not stain the fingers. Place the plate in a tray, cover with developer, and watch carefully, bromide bottle at hand, to check over-exposure if necessary. When development is complete, transfer the plate to the alum and fixing baths, and then wash it for ten minutes in running water.

While the plate is washing, soak a piece of bromide paper in a tray of clean water. After a final rinse of the plate under the tap, slip it under the sheet of bromide paper and rub the two film surfaces gently together. The plate is now ready for exposure without any printing frame being necessary. The exposure must be timed according to the density of the negative, then the plate and paper are returned to the tray of clean water, and the bromide paper gently stripped off without doing any damage to either of the films. The bromide paper is developed in some fresh developer, fixed and washed quickly in several changes of water, then all superfluous water is blotted off and the finished print pinned up in a strong draft, when it will be dry in a few minutes. The whole operation from beginning to end should not take three-quarters of an hour.

UGH.

COMPOSITION means literally and simply putting several things together so as to make one thing of them, the nature and goodness of which they all have a share in producing. Thus a musician composes an air by putting notes together in certain relations ; a poet composes a poem by putting thoughts and words in pleasing order, and a painter a picture by putting thoughts, forms and colors in pleasing order. Composition understood in this pure sense is the type in the arts of mankind of the providential government of the world. Though no one can invent by rules, there are simple laws which it is well to know.—*Ruskin.*

"Amateur Portraiture at Home." Just the book for beginners. Price, 50 cents.

THE DARKROOM

THE DARKROOM AND ITS ILLUMINATION.*

Before dealing with the question of the illumination of the darkroom, may I say a few words upon the subject of the darkroom itself, because I feel that there is too much disposition shown in many cases to take advantage of any makeshift arrangement as a darkroom, and to take little, if any, care that the place selected is convenient for the purpose for which it is intended, or healthy for its occupant. To illustrate what I mean, I have a very vivid recollection of the first darkroom which it was my privilege to possess. It was situated in a picturesque position under the back stairs, and allowed just about as much privilege in the way of movement as is allowed to a sardine in a tin; of course, once one was securely packed in and sat down one could manage to work, and do good work, too, but it was a matter of wisdom to keep the elbows pretty close in, for fear of accidents to the funny bone, and also to refrain from any hurried jumping up, which might have caused dents upon the cranium, and possibly also the use of things which, as Mr. Punch says, "one would rather have left unsaid." Add to the scantiness of the accommodation the little incident that the water supply was contained in a jug, and the waste was received in an old bucket, which somehow or another had to be tucked in between one's knees, and you have something of an idea of my first darkroom. But the English language is quite unequal to describing the odors of my darkroom lamp, which was a paraffin one of the very worst class; ventilation there was none, but I used to get over that difficulty by vigorously waving the door backward and forward every time there was an opportunity of letting in a little air. No doubt it is rather amusing to think of such a darkroom, or rather blackhole, as I have just described, and yet I venture to say that many hundreds of our fellow-amateurs pursue the occupation under exactly similar circumstances, and then call it "amusement."

Now, by way of contrast, may I describe a little darkroom also intended to accommodate one worker, which I had the superintendence of immediately before coming to Scarborough. At that time I had the pleasure of acting as lecturer in photography for several years under the West Riding County Council and we had a very excellent class at Selby. The Technical Instruction Committee met us very liberally, and as the class was under the control of the Mechanics' Institute, the County Council made us a grant for the purpose of fitting up a lecture room, which, by the way, we made a most convenient one, but they also allowed us a sum of about £20 for fitting up and thoroughly equipping a darkroom for the use of the class. We managed to get possession of a sort of closet five feet in width and about ten in length, and perhaps twelve in height, and possessing a window, which our first work was to block up,

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* A paper read before the Scarborough and District Photographic Society by Mr. J. Cordukes Thompson.

Negative by J. R. Brice. Chicago.

providing, however, in place of the window a simple lightproof ventilator; we further provided for ventilation and exclusion of actinic light by having double doors. In the outer door we had a dozen good holes bored close to the floor, while the inner door was similarly provided with ventilating holes but in this case near the top. Thus (without perceptible drafts) we had a through current of air, and I may say always found the ventilation to be perfect, no matter how long the room was occupied, or what amount of gas we were burning in the lantern. The room was matchboarded to about shoulder height, and the boarding stained a dark color so as not to show stains in case of any splashing, and then varnished. The upper part of the wall was colored with a good nonactinic and nonreflecting color, and the raw material, as one might call it, of our darkroom was complete. We then fitted up our developing stand at the farther end, rising in two stages. The lower stage was occupied in the center by the porcelain trough; this was a mistake and resulted in a good many breakages of measures; anything of glass slipping from the hand was sure to be broken by it, whereas had the sink been of properly waterproofed wood, the "mortality rate" would have been much lighter. At each side of the sink was a small table for graduates, dark slides, etc., and these tables were slightly inclining toward the trough, and also grooved, so as to allow of any liquid draining away. I ought to say that the sink was properly trapped, and the waste pipe carried to the drain, where it was properly cut off, and that our sink was also provided with a very handy pattern of rose tap. Now for the upper section of our developing stand. The post of honor on this was, of course, allotted to our developing lamp, which was a large gas lantern, by Reynolds and Branson, provided with a by-pass, but the great feature about our lamp was that unusual pains were taken to get a thoroughly nonactinic light, one that would pass any test that could be imposed upon it, and many were the experiments which we made before arriving at the solution of the difficulty. We eventually fell back upon one thickness of best stained red glass and one of aurine glass, both of which were specially selected, and also very carefully tested spectroscopically, and the result was a perfectly nonactinic light, of which we could have, even with extra rapid plates, as great a flood of light as any one could desire — in fact, when using the most rapid plates I usually had as much light as would have enabled one to read a newspaper in almost any part of the room, and we had never the slightest trouble with fog as a result. But to return to the subject of our room, one might say that one of its features was the completeness of its accommodation in respect of plate racks and shelving; this, in all well-regulated darkrooms is, I think you will agree with me, a matter of very considerable importance.

Now I am not suggesting that it is necessary or even advisable for every amateur to possess a darkroom of the somewhat elaborate nature which I have briefly tried to describe, although, no doubt, it would be a matter both of comfort and luxury if he were in a position to do so; but I do say that it is in few cases indeed that the occasional use of some fairly roomy place cannot be had, and it is such an easy matter, with the assistance of a light wood frame covered with American leather, to get the necessary darkness, and a convenient developing stand is so easily rigged up out of nothing more intricate than a light washing stand and a medium-sized wood tray, that it is rarely necessary to fall back upon an ill-ventilated and cramped place for the purpose of darkroom work.

Possibly you may think I have laid rather unnecessary stress upon the question of ventilation, but I am now going to lay that part of the question to one side in order to consider a very important darkroom question, namely, that of the *lighting* of the darkroom.

It is not necessary for me, for the purpose of this paper, to go into the question of why we have to use a special lighting for the darkroom. It is

sufficient for my purpose for us to accept the broad fact that it is only certain of the colored rays of the solar spectrum which have the power to any appreciable extent of impressing an ordinary photographic plate. I say ordinary, because, of course, plates which have been specially treated may be more or less sensitive to all the rays of the spectrum. You all know the various colors which the solar spectrum exhibits, and probably all know equally that it is more particularly the blue rays which exert an influence on the plate. As a matter of fact, we may take it that a so-called ordinary plate is affected by all the rays, commencing at the violet end of the spectrum, and extending as far as a certain distance into the yellow, so that illumination caused to pass through a medium which cuts off or absorbs those sensitive or, as we call them, actinic rays, should prove a safe light when using ordinary plates; but our extra rapid plates are more or less sensitive beyond the range of the ordinary plate, that is, they are to a certain extent affected by the yellow rays, and even in many cases to a certain extent within the confines of the red, so that an illumination which would be reasonably safe in the case of ordinary plates might be exceedingly unsafe in cases where extra rapid plates are in use; it is, therefore, necessary to be sure that the illumination is suited to the particular class of work in hand.

Now, let us consider what kind of light comes through glasses of different colors. I say glasses, but of course you understand that I mean to include papers, fabric, or any other materials which may be used for the purpose of a "light filter." When the old collodion process was in vogue, plates were immensely less sensitive and, therefore, almost any yellow light was a sufficiently safe one; but with the advent of the dry plate, with its increased sensitiveness, it was found at once that a radical change would be necessary, and the medium most largely employed was ruby glass, which, from its color, one would naturally expect to cut off all colors except the red rays, but in many cases operators found that they were very liable to meet with more or less serious fogging. Examination with the spectroscope at once made it evident where the mischief lay. As I shall try to demonstrate to you later, it was found that although many of the actinic rays were absorbed, yet some of the dangerous blue rays were permitted to pass, easily accounting for the fog. Of course, many experiments have since been tried, many colors tested both by themselves and in composition with others, and, as you know, it is possible and even easy to obtain illumination as safe as any one can reasonably desire.

I shall endeavor to demonstrate to you clearly the advantages and disadvantages of the various colors in a few moments with the aid of the lantern, and, therefore, it would be useless repetition for me to dwell upon them now; but I may just say that a good specimen of stained red is an excellent lighting, and has also the advantage that it allows about ten per cent of the total light to pass through it, while some combinations of color allow only about one-twenty-fifth or so of the light to pass. Of course, if fabric be used instead of glass, the proportion of light allowed to pass is much lower; the addition of even a weakly colored yellow glass to the stained red is an improvement, while perhaps the best of all results are obtained by using a combination of stained red (not ruby) with a good orange; but we must bear in mind, too, that the safeness or unsafeness of our light, as one might say, depends largely upon the distance at which we are working from the source of light. It is even quite possible to develop safely by ordinary candle-light, and this I have done on more than one occasion. This can safely be done by shielding the direct rays of the candle, say by placing round it a cylinder of brown paper, so that the rays are directed upon the ceiling; you can then develop by the reflected light. The reason of this is the fact, which you all know, that the intensity of the light varies inversely as the square of the distance. Supposing, for instance, in the case I have just mentioned, there is six feet of distance from the flame of the candle to the ceiling, the ceiling receives only one-thirty-sixth of the illumination which a plate one foot from the naked light would receive, but the light has to travel back from the ceiling to the operator ; say it comes back another six feet, then the ultimate illumination is only about 1-200th of that of the flame itself at a foot, so you will see that the mere weakening of the intensity of the light, given sufficient care, enables one to conduct any work in reason which is required, although it is merely a question in that case of the *time required* to exert an injurious influence, and it is desirable to use care in shielding the plate from unnecessary exposure to the rays — in fact, it is an excellent rule, no matter how reliable your illumination may be, to give the plate as much protection as possible in the way of shielding.

But there is one more question which I should like to touch very briefly upon before going on to give you, with the aid of the lantern, a few demonstrations, and that is the question of the most suitable source of light. Of course, for any one in a position to work by daylight, that method forms the readiest and cheapest mode of illumination, but there is the difficulty that the quantity and quality of the light varies not only from month to month and from day to day, but even from minute to minute, whereas by employing artificial light one is always able to have a reasonably uniform light, and this, to my mind, is such an advantage that I should never advise any one to go in for daylight illumination, but far preferably adopt one of the many well-contrived lamps which abound in the establishments of our local dealers. Supposing, then, we adopt artificial light as the best to employ, we have a large and very varied choice. Candle-light, for instance, used behind a single sheet of stained red glass forms by no means a bad lighting ; still better is paraffin, provided you have a well ventilated room and a lamp which does not smoke or smell ; electric light, of course, where laid on, is the most handy and uniform; only it is advisable, if you do not wish to court disaster, to put no trust in ready-made ruby incandescent lamps, but rather have a good lantern made with good nonactinic glass, and fit it up with an ordinary, say eight candle-power lamp. Gas, however, forms perhaps the most convenient form of lighting, but where it is employed care should be taken that the lantern is large, and that the chimney, if possible, is taken through the wall of the dark-room, so as to carry off as much as possible of the heat and fumes.

I think now I have said enough for the purposes of this comparatively introductory paper, and will, therefore, ask you to consider with me the results of some lamp testing which, by kind permission of members, I carried out last year, both spectroscopically and experimentally, and if time then permits possibly I may be able to repeat the experiment, in one case at any rate, in your presence.—*Photography.*

DRYING PLATES BY ALCOHOL.

As is generally known, plates which are wished to be dried quickly may be plunged into alcohol. In a short time the greater part of the water in the gelatin is drawn out. This proceeding is of interest as it secures good washing, the insufficiency of which causes so many plates to fade. Even if only small quantities of soluble salts are contained in the plates, the alcohol extracts them with the water. If the washing were too short, too insufficient, the plates would be covered, after the alcohol had had been removed, with small salt crystals, therefore they must not be too short a time in the alcohol, as the water would then be only partly extracted.

Concentrated alcohol without water can be obtained by the use of dry carbonate of potash, a quantity of which at the bottom of the bottle extracts all the water from the alcohol. Good strong alcohol treated in this manner dries a plate in ten minutes. Perfectly dry plates which it is wished to put into the printing frame produce a grating sound if grazed with the finger, but plates which are only half dried make no sound.

HOW TO MAKE A DARKROOM IN A BASEMENT.

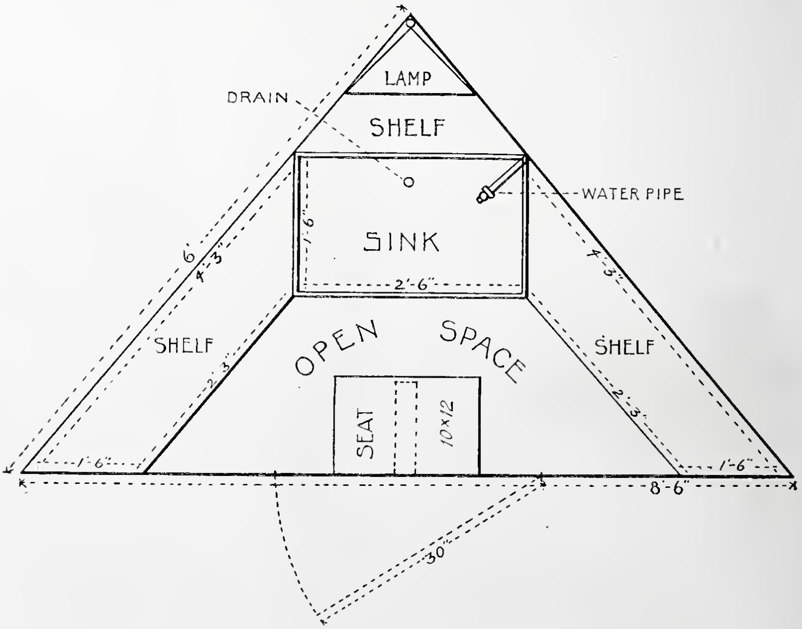
FOURTH PRIZE ARTICLE.

If the object in view is to secure a darkroom of the greatest convenience and utility at the least expense, the following plans should give everything desired, and I can personally vouch for their being practical. In my opinion a basement is an ideal place for a darkroom, being as a rule quiet, with very little to draw one's attention from one's work, and above all things cool in summer, which is very important, and comfortable in winter; and with water and drain pipes handy, there is no doubt but what the basement is the place for a darkroom.

As room is always an object, and to a great many a very important factor, especially to myself, I will describe a darkroom that takes up but little room and still has ample space for work. I chose the corner of the basement where the water pipes went up stairs (they are usually built in a corner), and measured 6 feet each way from the corner along the wall 8 inches above the floor, and again 6 feet 6 inches above the floor. From these four points I carefully nailed up firmly two 2 by 4s, mitered at the ends so as to fit the walls snugly and firmly. To these crosspieces I nailed on the outside from wall to wall ½-inch wainscoting matched or dovetailed, reaching from the floor to the ceiling. I then measured off as nearly as possible so as to come where the upright boards joined, a space 30 inches wide in the wall of matched boards I now had before me, and with a fine saw sawed through the dovetailing where the boards joined, including the 2 by 4s, from the ceiling to the floor, commencing in the center and sawing to the floor and then going back to the center and sawing to the ceiling, doing this on both sides of the 30-inch space so as to make a door. The next step was to take a piece of three-cornered molding and carefully nail a piece from the wall to the edge of the door on either side on the floor and on the ceiling to finish off and as a precaution against white light; also fasten with glue and small nails a piece of the molding on the top and bottom of the section you cut out for a door, cutting a miter on the ends of the molding that come to the side of the door that you put the hinges on, which should be three in number, one over each 2 by 4 and one in the center, on the outside. Before hanging the door it would be as well to smooth off the top and bottom and insert a piece of black cloth between the molding and the door so that it projects about one-quarter of an inch from the top and from the bottom to help exclude any white light. After fastening a latch or knob on the outside of the door the exterior is finished, except for a coat of paint or natural stain, which will help the appearance very much.

The interior, where we have our study, so to speak, is the part that decides whether a darkroom is a success or not, and is therefore the most interesting; and the darkroom to be a success must be handy and convenient. For a ruby light I set up a three-cornered lamp right back in the corner. I made mine out of a gloss starch box, using a midget lamp which cost 10 cents. For ventilation I bored three half-inch holes in the bottom of the three-cornered box or lamp near the edge so that the lamp would not stand on them, and inserted a tin tube one inch in diameter and one foot long into the center of the top of the box for a chimney. To secure the red light I used common glass, but I made three light frames of wire full size of the front of the lamp and covered two with red and one with yellow tissue paper. These I hang in front of the light as I need them, and this secures for me any quality of light I may desire, from white to a deep red. In front of the light I have a narrow shelf, which comes up even with the bottom of the lamp, so as to shut off any light that might come from the holes in the bottom of the lamp.

In front of this shelf I have a sink 2 feet 6 inches by 1 foot 6 inches and four inches deep, the top of the sink coming even with the shelf. The sink is made as follows: Get a good pine board free from knots 2 feet 9 inches by 1 foot 9 inches, 1½ inches thick; nail on top of this on either of the long sides a piece 2 feet 9 inches long and 4 inches high and 1½ inches thick (nail these on top and not on the side), and across either end inside and on top nail a piece 1 foot 6 inches long and 4 inches high and 1½ inches thick. Before nailing use liquid fish glue liberally, which is waterproof. Let this become thoroughly dry, then in the center of the sink near the back bore an inch hole. Now give the inside of the sink, and the outside too, if you will, two heavy coats of bicycle enamel, or some other good hard drying enamel, letting the first coat dry thoroughly before applying the second. Now set up your sink, screwing into it a piece of inch pipe, threaded where it goes into the sink, using plenty of enamel on the threads. If you have no drain into which to run your pipe, a good plan is to have the pipe run out of the dark-room and empty into a large pail. You now have a sink that will not leak a drop. On either side of this sink I have a shelf about 1 foot 2 inches wide, 4 feet 3 inches long on back, 2 feet 3 inches long in front, running from the sink to the partition. I rested my shelves and sink on iron brackets, but wood brackets triangular in shape are nearly as good if you wish to use them. If you wish to stand and work, place your shelves and sink forty-five inches from the floor; if you sit down, as I do, place them thirty inches from the floor. For a seat fasten on to the door, with hinges on top, a board 10 by 12 inches and 1½ inches thick, with a leg in front hinged inside on the bottom. This you can fold up when you do not want to use it, and with a catch hook it up against the door. Overhead I erect another set of shelves like the ones I work upon, with the exception that in place of the sink, I have a shelf. Now cut your water pipe in two about eight inches above the sink, put in a tee and bring your pipe along the wall to the corner of the sink on the right-hand side; then run out toward the center of the sink about two inches and put on a stop cock. Care must be used so as not to get this too far out so as to be in the way. It would be well to get a plumber to do this last part, which would not be expensive, unless you have the necessary tools. Now put up a strong hook and staple on the inside of your door, to guard against any one opening it while you are at work. It would also be well to enter your dark-room and close the door tightly, and



with your light out see if you can discover any small holes or cracks where any white light can come in; if so, cover them with heavy paper pasted on, and give the paper a coat of your black enamel, as the slightest crack or ray of white light may give you a great deal of trouble. After putting up a few hooks on the wall for convenience your darkroom should be finished.

Always arrange your trays and bottles so you will know just where to find them. Have a place for everything and keep everything in its place. Then, lighting your ruby light, you should be ready to go to work, and after you have spent as many pleasant hours in your darkroom as I have in mine you will never be sorry or regret that you took pains to build one.

The drawing will show the general arrangement and may help to show how the shelves and sink are set in.

W. J. Day.

Bradford, Pennsylvania.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

A HANDY DARKROOM TOOL.

A very useful adjunct to a darkroom is a sponge stuffed to the extent of one-half or three-quarters of its bulk into a short wide-mouthed bottle. Any liquids accidentally spilt can be at once mopped up with this sponge without soiling the fingers. It can be easily cleaned by pulling it apart and washing sponge and bottle separately. A sponge mounted in this way makes a good brush for applying mountants to prints. It does not shed any bristles, and when temporarily out of use, can be stood erect on its handle, and though full of paste, will collect no dirt on itself nor "mess up" other things.

G. E. B.

Negative by Frank Eliot Smith, Philadelphia, Pa.

THIRD PRIZE.

Varnish for Lantern Slides.—An excellent varnish, quick-drying and little affected by heat, is made by dissolving 30 grammes of amber in 200 c.cm. of chloroform. The amber is not completely dissolved by the chloroform. The undissolved sediment is therefore wrapped up in a piece of linen and squeezed well, so as to lose as little as possible of the solution.

THE PRINTING ROOM

CARBON PROCESS IMPROVEMENTS.

THE USE OF WAXED AND ALUMED SUBSTRATA.

In a paper read before the Société Française de Photographie on December 2 last, and published in No. 5 of the *Bulletin* for the current year, M. Balagny draws attention to some useful improvements in the working of the carbon process, which he obtained from M. Lamy, the well-known manufacturer of carbon tissue, and the late M. Chardon, also well known in connection with photographic work. The methods advocated seem likely to be useful in removing some of the difficulties which beset the amateur carbon printer and prevent the more general adoption of the process.

For those persons who use the single transfer process of carbon printing there is really not the slightest difficulty. With tissue well and quickly dried, and correct exposure, prints can be obtained which are in every way satisfactory. But persons who are unwilling to use films, and we may especially add paper negatives, which, besides keeping better, have the further merit of entirely suppressing halos of reflection, must necessarily use glass negatives, which, with carbon, involve the use of the double transfer method. It is this alone which causes any difficulty for persons unfamiliar with the process.

The development is carried out in the first place on a temporary support, and then the image is transferred from this support on to another or final support by the double transfer, and this second transfer should be quite complete, so that the image may appear with all its details as developed on the preliminary support.

Now it sometimes happens, we may repeat, to those unaccustomed to the work, that in the process of second transfer many of the original details are left adhering to the temporary support. The print is spoiled because the preliminary support has not yielded all that it should have done, and part of the picture has stuck to it.

Waxed glass plates, or paper, or paper coated with india rubber, form the most usual temporary supports; the latter is the best of all if one knows how to prepare it. For the present we may deal with waxed-glass plates, which are very convenient in use. They should be prepared as follows: M. Lamy recommends a solution of wax in benzin. We prefer to use the following:

Virgin white wax grated....	2 grams
Ether at 62° (sp. gr. .730) ..	50 cc

When the solution is nearly finished complete it with alcohol at 40° (sp. gr. .827) 50 cc.

This formula, which we published some time ago, is interesting in a way. The addition of alcohol (which is not indicated in most of the special works on the subject) has the effect of preventing the too rapid evaporation of the ether. Some drops of the mixture may be applied to the surface to be waxed, and there will be plenty of time to cover the whole surface and remove any excess of liquid before it is completely evaporated. In this way a perfect polish is obtained at once, quite free from any lumpiness of the wax, which is so difficult to avoid and get rid of if the precaution has not been taken of adding alcohol to the ether in dissolving the wax.

M. Lamy further recommends that the waxed glass plate should be immersed in a well-filtered bath of chrome alum at five per cent for about five minutes. The alum produces on the wax the same effect as on gelatin; it destroys the stickiness. It may be imagined, therefore, that a carbon image transferred on to a glass waxed and alumed would very easily be detached with its most delicate half-tones, and no further loss of prints need be feared on that score.

DEVELOPMENT METHODS.

M. Chardon often used to say that carbon printers were in the bad habit of developing with too hot water. He recommended to us the following procedure, and we have found that it has always answered well.

As soon as the carbon print has been transferred to its paper support, whether for single or double transfer, it is left under slight pressure for some minutes, and then at the end of, say, ten minutes, it is plunged into cold water and left for an indefinite time — an hour would do no harm. Then, in order to clear the image, a little warm water may be added to the cold, and it is astonishing to see at what a low temperature a carbon print can be developed. In this way a large number of prints can be developed at once.

Further, M. Chardon pointed out that a carbon print could be completely developed in cold water by adding to the water a solution of sulphocyanide of ammonium.

That reminds us that MM. Auguste and Louis Lumière have mentioned that certain alkaline chlorides, notably barium chloride, are solvents of gelatin. It will easily be understood, therefore, and these gentlemen have mentioned the application, that this substance may be used for bringing down an over-exposed carbon print.

But it must be done carefully, otherwise the barium chloride, if not properly used, may produce reticulation.

By way of concluding these notes we describe a method of working which will enable the amateur to use any kind of paper for double transfer, either tinted paper, rough-surface paper, china paper, etc.

CARBON PRINTS ON ANY PAPER.

A ground glass plate is used as temporary support; it is waxed and alumed as described, then well rinsed with water, and put aside to dry if a number are being prepared in advance.

The transfer is then made, and the print developed in the ordinary way. It is rinsed with water, alumed, and again rinsed with water. Having previously prepared a well-filtered solution of gelatin at three per cent, and kept at a temperature of about 68° Fahr. (20° Cent.), the glass with the wet carbon print is taken in the left hand and coated with the gelatin solution like collodion, the excess being poured away. Turning the glass so that the side which was uppermost in the first coating is lowest, a second coating is applied over the first, and the excess allowed to drain away. The plate is then placed level, or nearly so, on a table, till the gelatin is set.

At the end of an hour the paper selected is taken and moistened for a moment in water to distend it completely, and it is laid down as usual on the gelatin surface. A few touches of the squeegee are given, and the print is allowed to dry, after which it will strip off the glass without any difficulty, and present a fine matt surface.

The print can be left as it is, or it may be mounted, burnished, and finally, what is always desirable with carbon prints, waxed.

This method of gelatinizing the support permits other papers to be used for the final support than those usually found in commerce, and a more artistic effect may be given to the prints.—*Photography.*

OZOTYPE.

Ozotype is the name of a process worked out by Mr. Manly and described by him at the Royal Photographic Society on March 28, whereby a visible print on paper can be pigmented. That is to say, it is a modified form of carbon printing. The following notes have been culled from Mr. Manly's lecture, demonstration, and the conversational discussion following his paper :

Starting with the action of light on certain chromium compounds, we learn that light splits up chromium trioxide into chromium sesqui-oxide and oxygen. Gelatin, said Mr. Manly, has an affinity for nascent oxygen, oxygen absorbed or combined with gelatin tending to make it less soluble in warm water. This point was illustrated by the experiment of placing a piece of ordinary carbon tissue face upward on a thin board. Several needles are stuck through the tissue into the wood. The whole is then dipped in very dilute acetic acid, and afterward set aside to dry for some hours. On placing the wood, tissue and needles in warm water it is at once seen that round each needle is a little mass of insoluble gelatin.

The practical application of these principles is made in the following way : Paper is coated with a solution containing a bichromate and a manganous salt. It is then printed under a negative in the usual way, yielding an easily seen image of a pale brown-yellow color. This picture (a positive) is due to light decomposing the chromic salt as above shown. The print is now washed in water to get rid of the unaltered salts, leaving the visible positive image only. A piece of insensitive carbon tissue is immersed in a bath containing acetic acid and hydroquinone (or other suitable phenol derivative). The print is also immersed in the same bath. The print and tissue are brought face to face, removed together, squeegeed, and hung up until dry. Next they are immersed for half an hour in cold water, and then transferred to warm water. The tissue-backing or supporting paper is removed, and development proceeds exactly as in the way with an ordinary carbon print.

THE RATIONALE OF THE PROCESS.

This seems to be as follows : (1) Light passing through the negative decomposes the chromium compound, setting free oxygen. (2) This oxygen is taken captive by the manganous salt and oxidized into a manganic compound. (3) The acetic acid liberates the oxygen, which is assimilated by the gelatin in contact with the print. (4) The phenol derivative assists in the hardening or tanning of the affected gelatin. (5) The warm water dissolves away the unaffected gelatin. The result is the pigmented gelatin is captured and held by the positive print. It will thus be seen that we do not get a reversed (right and left) print as in single transfer.

The chief advantages are the facts that the image is printed visibly out, and printing goes on till detail is seen in the high lights. The sensitiveness or speed of the printing paper may be compared with platinotype. The printed paper when washed may be kept fully six months before pigmenting, if need be. The image is not reversed. No safe edge is needed. By varying the acetic acid bath constituents, contrasts may be increased or reduced. Blisters and similar troubles do not occur. The avoidance of putting the fingers in bichromate solutions.

THE WORKING DETAILS.

THE SENSITIZING SOLUTION (which is brushed over the surface of the paper). This is composed of :

Water	100 parts
Potassium bichromate	14 parts
Manganous sulphate	7 parts

THE PAPER.—This may be any plain paper, such as Arnold, Whatman, etc., or we may conveniently employ a paper already coated with insoluble gelatin, such as ordinary single transfer.

PRINTING is carried out by daylight, in sun, or diffused light, according to the nature of the negative, and the progress of printing is examined from time to time until detail in the high lights is visible.

Washing the Print.— This is done in successive baths of cold water, until the wash water ceases to show any color. Three or four changes are usually sufficient, and the print is then dried.

Coating the Print.— When sensitizing has been done on a paper already coated with gelatin no further coating is needed, but where plain paper has been used the dried print must be coated with a two per cent solution of soluble gelatin.

The Acid Bath.— This will vary according to the result desired. Thus:

Water	20 ounces
Glacial acetic acid	20-48 grains
Hydroquinone	5-20 grains

As a good general standard the following proportions may be observed: Water 1,000 parts, acid 3 parts, hydroquinone 1 part. The carbon tissue (cut to the same size, or a trifle less, than the print) is immersed in the "acid bath" one minute, care being taken to avoid air bells; the print is immersed a few seconds, and the two then taken out together, squeegeed, and surface-dried between blotting paper, and hung up to dry. Prints so treated at night are ready for development next morning.

Development. — The print is immersed in cold water for half an hour, then transferred to warm water (100-105° Fahr.). In a few minutes the backing paper may be stripped away. The print is then conveniently laid on a sheet of zinc and gently laved with warm water. When development is complete the print is finally hardened by immersion in a one per cent aqueous solution of alum.

SUNDRY ITEMS.

When rough paper is used the printing should be carried a little deeper than when using smooth paper.

For increasing contrasts increase the acetic acid in the acid bath. For greater softness increase the hydroquinone.

The addition of a small quantity of magnesium sulphate to the acid bath aids the solubility of the gelatin.

Ferrous sulphate may be used in place of hydroquinone.

In case of an under-printed proof, immersion in a very weak solution of chloride of lime may improve matters. The sensitized paper will keep three months.

A washed print can be developed after nine months, if not longer.

The acid bath should be used at a temperature between 65° and 75° Fahr.

Mr. Manly has taken steps to cover the process by a patent.—*Photography.*

A NOVEL METHOD OF BINDING LANTERN SLIDES.

Most lanternists are, I know, plagued by the operation of binding their slides, and waste much time and language in so doing. I was no exception to the general rule till I adopted the following plan, which saves fifty per cent of my time:

Obtain an earthenware jar, or anything with a level round top smaller than the lantern slide. Get another jar of about the same size and fill it with scraps of lead, etc., so as to make it as heavy as possible. Take the slide to be bound, select a mask to fit it, and a cover-glass. Make a "sandwich," so to speak, of all three, place them on the top of the first jar, and put the heavy jar on the top of them. You will find now that the slide is kept rigidly still, and this, in itself, facilitates the operation of binding. Take a binding strip, and at distances of 3¼ inches from each other make little incisions with the scissors on either side of it, so as to nearly, but not quite, divide the strip. Now damp the gummed side of the binding strip and — well, the rest is easy. I leave it to the lanternist's instinct. R. A. Hamblin.

The "Photo-Beacon Exposure Tables" is certainly a wonderful little book, and you can safely recommend, yes guarantee it to any amateur, for by following it an exposure may be made any time of the day, in any kind of weather, and for any object, without the chance of a mistake. Ross Black,

Huntingdon, Pa.

PRINTS IN SUITABLE COLORS.

With the great choice of printing material now obtainable, there is no excuse for a print being out of season as regards color or surface. About the only process in which the color can be absolutely settled beforehand is carbon, which is still not sufficiently adopted by amateurs, considering how easy the working of it really is. The chief transgressors as regards unsuitable colors are users of P. O. P., and, considering how the tones of this paper can be modified, such need not be the case. A warm-toned snow scene, for instance, can be altered by immersion in the sulphocyanide toning bath till every trace of warmth has disappeared, and a cold bluish tinge appears. This bath will also correct a similar lantern slide. Other methods suggest themselves to any amateur acquainted with the toning of P. O. P. The paper as a rule should have a white body; rarely will pink or mauve be required. As to surface, matt is nearly always suitable; but for very small prints, and also scientific and other prints in which a wealth of detail must be shown, of course the glossy paper should be used. When in doubt as to what color to print a subject in, always use a black-and-white process, such as bromide or platinotype, which suits every kind of subject.

R. W. K. G.

From the New Lexicon.—Flesh tints—Bruises. Working developer—A large family. Matt surface—Dirt. Reversing device—A double somersault. Objective—The average taxpayer. Insensitive salts—Tars ashore.

To prevent prints from cockling it is a good plan to immerse them in a bath of alcohol for about five minutes after they are fixed and washed, and then transfer them to another spirit bath to which a few drops of glycerin has been added. They should then be dried between sheets of hard blotting paper under pressure. Treated thus, they will remain quite flat.

EDITORIAL TABLE.

We have from Burke & James, Chicago, one of their enlarging and copying lenses, which is certainly very ingenious and useful. It is a great improvement over anything of its kind ever before made, as it is adjustable to a number of sizes of lenses and is applied in a moment without any screwing or unscrewing of the combinations. It can be applied to any short folding focus camera, which enables the owner to make copies or enlargements in a perfect manner which could not otherwise be done. We gave these lenses a very satisfactory test in 1896, but they have been greatly improved by Burke & James, who are the inventors and manufacturers. We refer to our April issue of 1896, which describes them very well. We can heartily recommend them.

Calhoun County Bank,
Manson, Iowa, June 6, 1899.

The Photo-Beacon Co., Chicago, Ill.:

Gentlemen, I inclose herein draft for $1 to renew my subscription to The Photo-Beacon. There is no magazine that reaches my table that is so eagerly watched for or more thoroughly read. I am only sorry that it does not come oftener than once a month. Wishing you all kinds of success, I am, Yours truly,

Chas. E. Bale, Cashier.

THE PHOTO-BEACON.

AN ILLUSTRATED PHOTOGRAPHIC JOURNAL, Published Monthly.

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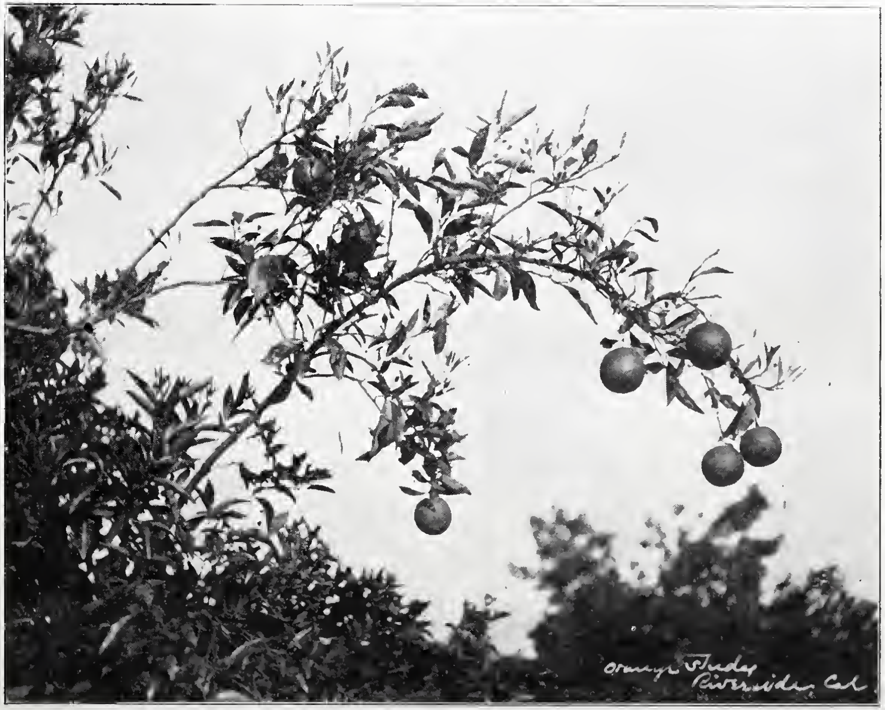

Negative by John S. Martin, Jr., New York, N. Y.

FIRST PRIZE

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. SEPTEMBER, 1899. NO. 9.

THE BRITISH CONVENTION.

MONIFIETH, Scotland, July 17, 1899.

When I wrote my previous letter we were enjoying the very questionable luxury of a heavy swell which caused our ship to roll very decidedly. The majority of the passengers rather enjoyed the motion, but to many it meant the loss of a healthy appetite developed by contact with ozone. The heavy rolling continued all through the night, and stopped only on our reaching Queenstown at eight o'clock next morning. Having landed some passengers and mails, we looked forward to a pleasant run to Liverpool, but as soon as we neared the Irish Sea the ship took on a new motion — pitching — and a new form of seasickness was developed, quite a number succumbing for the first time when within a few hours of landing. My own boy kept up his reputation to the last moment, and at Liverpool he was carried ashore feeling very weak after a continuous fast of seven days.

We spent the Sunday in Liverpool, with my brothers, and in the early morning the fasting boy began to develop an appetite. Scotch porridge was his specialty, and at least half a dozen times that day he laid in a moderate supply of porridge and milk. We had landed in a drizzling rain, and showers prevailed until we crossed the border about midday on Monday, so that we saw little of the city or the country as we passed through it, but we did enjoy the beautiful hedgerows that do duty for fences in this part of the world. Once free of Carlisle, the young folks crowded to the car windows to note the eventful moment when we should be in Scotland, and quite a little cheer went up as we reached the center of the bridge that crosses the Solway. The old folks had their own feelings, too, but did not say very much. I need not linger over the run home nor mention the good friends who were awaiting us at Edinburgh to show us that our memories still lingered in their hearts. But we were heartily glad when at eight o'clock we got our young folks under their grandmother's roof. I spent Wednesday and Thursday in Edinburgh making a hurried scamper over my old friends, glad to see so many alive and well, but saddened to note the absence of those who had joined the great majority.

On Friday my better half and I started for Southampton to see one of my sisters who had recently returned from Melbourne — by the way, I belong to a family of wanderers, not one of them being in Scotland. Then on Monday we proceeded to Gloucester to take part in the Photographic Convention of Great Britain, to see with our own eyes how things were conducted in gatherings of this sort in this part of the world. One or two of the English photographic journals in the past have seen fit to poke a good deal of fun at American gatherings, and of course I presumed that affairs here would be on a much higher plane.

But I found that after all had been said and done, the sole purpose of the British gathering is to give its members a good time and to form a rallying point for old friends meeting once a year. The educational feature so conspicuous a part of American conventions is tabooed, and when one gentleman read a paper on the very hackneyed subject of "Development," a mere handful of gentlemen attended out of courtesy, listened patiently to what was largely mere words, solemnly voted him a vote of thanks, and then, schoolboy-like, escaped, muttering, "Thank goodness, that that's over." But it must be confessed, "the good time" part of the proceedings is managed with wondrous skill and success. From 9 A.M. to 10 P.M. the committee provided a continuous round of amusement. Nothing was rushed, but everything went as if by clockwork. We were trotted round among old castles, old cathedrals, old abbeys, old churches and old buildings, and lectured briefly on their antiquities and not less interestingly on the iniquities of the ancient inhabitants thereof. If all the tales told of them be true, our ancestors must have been a pretty tough crowd.

John Bull is not so hilarious in his fun as is Uncle Sam, but he gets there all the same. He is not so demonstrative in hailing his fellow-man, but he considers the existence of everybody and makes it his business to give every one present a little of his time in a quiet kindly way that is certainly very gratifying to strangers such as we were. My wife and I enjoyed the outing exceedingly and were truly sorry when the meeting came to an end.

At the dinner on the Wednesday evening the president was courteous enough to ask me, as a visiting stranger, to say a few words, and in the course of my remarks I took the liberty of conveying the fraternal greetings of the Photographers' Association of America to the British body, and I am pleased to say they were received with a hearty cheer.

I am through with my wanderings for a time, and propose settling down to golfing and bicycling for a few weeks, and the satisfaction of an appetite of somewhat tremendous proportions. I am scarcely so bad as the fasting boy who acknowledges three meals a day and a few snacks between each meal. By the way, he summed up his impressions of this country in a few words, which rather amused me: "No mosquitoes, no bother, and a chance to sleep."

F. DUNDAS TODD.

OUR TWELFTH PICTURE COMPETITION.

It is a matter of much surprise, as well as regret, to find this competition one of the poorest, as yet, in results. Very few prints were sent in and those not at all up to the usual standard. We are the more surprised at this because the subjects are easily obtainable, and, treated in a decorative manner, can be made very charming pictures. The prize-winners are:

First Prize — John S. Martin, Jr., 260 Madison square, New York City.

Second Prize — B. Hurxthal, Mansfield, Ohio.

Third Prize — D. H. Swiler, Harrisburg, Pennsylvania.

FUTURE COMPETITIONS.

Competition No. 14 — Water scenes; closes September 30.

Competition No. 15 — Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

LITERARY COMPETITION NO. 5.

There were about a score of competitors in this competition, more than half of whom gave a description of their method of making the ordinary starch paste, the only variations in their methods being the way in which they describe it. Of the remainder we had some little difficulty in determining the winners, but after reading and rereading we have awarded the prizes as under:

First prize — H. L. Whiting, 805 Fillmore street, Topeka, Kansas.

Second prize —W. Marshall, 24 South Porter street, Elgin, Illinois.

Third prize — James Black, New Knoxville, Ohio.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

LITERARY COMPETITIONS.

No. 7.—Copying photographs. Closes September 15.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible. Closes October 15.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas. Closes November 15.

No. 10. How to utilize photography as a hobby during the winter. Closes December 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to THE PHOTO-BEACON.

BEAUTY — WHAT IS IT?

On this ever-interesting point Hunt makes the following pertinent remark: "Keep this in mind, that it is the definite individual character of an object which makes beauty. The effect of light is what makes things beautiful. Light never stops to find beauty. Half the beautiful pictures in the world are painted from people who are not beautiful." This helps us to understand how it is that different photographers, from the same person, produce such vastly different results.. It is almost impossible to overestimate the importance of light and shade in photography.

Negative by Miss Belle Johnson, Monroe City, Mo.

HOW TO MAKE A GOOD MOUNTANT OR PASTE.

FIRST PRIZE ARTICLE.

I once asked a successful "professional" what kind of paste he used for mounting his large prints. He replied, "I never use anything but common starch paste for any of them." I have tried many different formulas and makes and find starch paste, made as below, as good as any water paste, safe, cheap and convenient. It should be made fresh each day it is to be used. To make, take one heaping teaspoonful of good laundry starch; add two teaspoonfuls cold water, and stir until entirely free from lumps; then add, while stirring, enough boiling water (be sure it is boiling) to make half a teacupful, or about one fourth of a pint. The paste is ready to use as soon as cool. Can be thinned with warm water if necessary.

For use on thin cards, book leaves, calendars or any place where the drawing, curling or cockling of a water paste would be an objection, as well as for glossy prints which can not be burnished after mounting, I use the following gelatin mountant :

Plain cooking gelatin	1 ounce
Alcohol, 95 per cent	10 ounces
Glycerin	from ½ to 1 ounce

Soak the gelatin in water till quite soft, say half an hour or more ; drain off all the water possible, and put in a wide-mouthed bottle with the alcohol and glycerin. Heat gently in a water bath until gelatin is entirely dissolved. If gelatin is quite soft, ½ ounce of glycerin will be sufficient, and if hard the full ounce may be used. If well cooked this mountant will keep indefinitely, and has only to be warmed in a pan of hot water to be ready for use. I have used it three years old, and found it worked as well as when first made.

I would urge photographers to be very careful not to use any pastes for mounting which contain acids or acid compounds, as these, and frequently some of the antiseptics used in pastes, frequently cause fading, discoloration or spotting of the prints.

H. L. Whiting,
805 Fillmore street, Topeka, Kan.

Negative by Edward L. Fernandez,
St. Bernard Parish, La.

THE ROAD.

St. Bernard Parish, La.

NINETEENTH ANNUAL CONVENTION OF THE PHOTOGRAPHERS' ASSOCIATION OF AMERICA, CELERON, CHAUTAUQUA LAKE, NEW YORK.

SECOND DAY — JULY 18.

The convention was called to order by the president at 11 A.M., who called the following ex-presidents upon the platform: G. Cramer, St. Louis ; W. H. Potter, Indianapolis ; C. H. Hayes, Detroit ; J. Will Kelmer, Hazelton, Pa.

After the reading of a letter of regret from —— Deane, of Waco, Texas, the secretary's and treasurer's reports were read without detail.

Treasurer's Report for 1899.

Cash on hand January 1, 1898	$1,910.40	
Dues, 1898	844.00	
New members	435.00	
Rent of space	1,131.00	
Rent of desks	175.00	
Collection on back space	121.00	
Rent of furniture	21.15	
		$4,637.55
Expenditures	$3,539.35	
Cash on hand January 1, 1899	1,098.20	
		$4,637.55

Secretary's Report.

Received for space	$1,131.00	
Received for desks	175.00	
Rent of furniture	21.15	
		$1,327.15
Turned over to the Treasurer		$1,327.15

Audited and accepted January 9, 1899.
(Signed) F. R. Barrows,
S. L. Stein.

Mr. George G. Rockwood read a paper on "Prices, and How to Get Them." Mr. Rockwood's remarks were devoted to three heads — Place, Circumstances and Artistic Excellence, and his remarks were to the point, and the hearty applause with which many of his points were greeted, and at the close of his address, showed that he had the appreciation of his hearers. Under the first head — Place — he said :

"Price depends entirely on place, circumstances, experience and merit, as in all other occupations or professions. Surely the newly graduated practitioner of law or medicine would not expect the same fee as the experienced expert of a quarter of a century. In a manufacturing town in which the inhabitants, or a large majority, were in receipt of a barely living income, they would not pay the same prices for photographs of even the first quality as in cities where there might be many wealthy people.

egative by D. H. Swiler, Harrisburg, Pa.

WILD CAT FALLS, PENNSYLVANIA.

Here certainly the principle of the nimble sixpence must prevail, and larger sales with small profits be the rule.

"Then, again, comes the question of expenses. I find many photographers in the smaller towns much more prosperous in proportion to the amount of business done than those in large cities. In the latter the expenses often are prohibitory to the attainment of a profitable result, the photographer in the larger cities having frequently to pay thousands for rent where his country brother pays hundreds."

In regard to the last head — Skill and Experience — Mr. Rockwood's own words sum up the whole question in a nutshell when he says: "Possibly my forty years under a skylight, with repeated visits to Europe, studying in the great foreign schools of art, entitle me to a larger compensation than the tyro in the art."

In summing up he said: "So, in the art, we can not as a body fix upon a single specific agreed rate by which all shall be guided in their prices. It is a question of location, a question of the character of your clientèle, and a question of artistic excellence."

Mr. Pirie McDonald was the next speaker, his subject being "State and National Conventions." This was an eloquent plea for the State convention, during which Mr. McDonald stated some curious facts; for instance, that whereas the largest paid membership of the National Associations has never been over 915, the nine State associations from which he had received statements numbered a total membership of 1730. Mr. McDonald created some amusement when he said:

"We have thought we had the name of the country on our letter-heads and that we have been in existence so long a time that we were 'it'; but mark me, that if you don't pay attention to the State association, you will be 'it,' because they will chase you, and they will catch you, sure as you live. The most radical, and the one thing that has not fitted into our ideas as members of the National Association, has been the growth of the salon principle. [Applause.] You Ohio men shut up! Ohio men always clap when we say that. But I want to tell you one thing, that before you are through with it, if you do not pay heed to your State associations, if you do not pay heed to some kind of amalgamation scheme, you will find that they are coming to maturity by themselves and will leave us out in the cold; and this association has been too good to me for me to see things going that way without a protest."

Mr. Bowersox, of Dayton, Ohio, next read a paper on "Business Methods."

This was an exhaustive paper upon the business side of photography, in which he gave some very practical hints and sound advice. Among other things, he said: "Anybody can start up in a business and make a little money; but it is the continual plugging away that counts; systematic and sustained effort. As photographers, we must have system above all things else, from the time the order is taken until the negative is registered away for future use; and on this I claim depends a great deal of our success. As Mr. Rockwood has told you, the prices you get depend upon location and on yourself. If you think your photographs are worth $6 a dozen, if that is your price for them, ask that for them; if you think they are worth half that, ask that; but you must know what it costs yourself to produce them. If you don't, you are not a thorough business man. You must know as nearly as possible what your pictures cost, in order to know what to charge for your work.

"Again, when you buy anything, discount your bills. If you do this, and will take time at the end of the year to reckon up and see what you have thus gained, you will be surprised at the amount of money that you have left in your treasury from this source alone. If you have earned a five-dollar bill, and you spend every cent of it, you have not saved any money, and consequently you have not been successful to that extent. So I believe in saving the pennies and saving the dollars; and that can be done by looking around your department and trying to find the little waste places where the stock is wasted here and there.

"Another point I want to make is the necessity of keeping your establishment in good condition; it must be renovated; it must be gone over at least once a year. People want to spend their money with successful men. For that reason you want to keep up the establishment. If you allow it to become a museum, or a junk shop, you will soon drive away your customers to somebody that has the knack of keeping things sweet and clean."

Mr. Rockwood next gave an amusing description of two different galleries he visited — the progressive and the non-progressive photographer's — contrasting their methods, their establishments and their show cases, etc.

Mr. Mims, of Akron, also added some pertinent remarks on the subject, which closed the discussion, after which the president announced that in the evening there would be a theater party given by the American Aristotype Company, and that in the afternoon Professor Griffith would lecture at the school.

On motion, adjourned.

THIRD DAY, JULY 20.

Upon the convention being called to order, the president called upon Mr. William H. Allen, of Detroit, to report upon the Jex Bardwell fund, which he did at some length. After detailing the service rendered by Mr. Bardwell to photographers by his defeat of the bromide patents and the unsuccessful efforts made to raise enough money to purchase a home, he submitted the following statement:

DETROIT, MICH., July 15, 1899.

Mr. Wm. H. Allen, Treasurer, in account with the Jex Bardwell Fund:

1897.	RECEIPTS.	*Dr.*
Aug. 14	—To cash received	$159.18
" 11	" " "	10.00
Oct. 11	" " "	16.00
" 14	" " "	10.00
Nov. 15	" " "	13.00
Dec. 8	" " "	17.50
1898.		
March 2	" " "	38.50
		$264.18
	DISBURSEMENTS.	
1897.		
Oct. 14	—By paid Mrs. Kouger for rent	$ 75.00
Nov 18	" " Raynor and Taylor for printing	2.50
1899.		
Jan. 9	—By paid for rent	72.00
July 3	" " " lot in Woodmere Cemetery	60.00
	Balance on hand	54.68
		$264.18
July 15	—To cash on hand	54.68

WILLIAM H. BARDWELL,
Treasurer Jex Bardwell Fund.

In a letter to the Association Treasurer J. W. Varney made some valuable suggestions with regard to the management of his office, and concluded by saying: "Not being a candidate for reëlection, I feel that I should also call your

Negative by B. Hurxthal, Mansfield, Ohio.

SECOND PRIZE.

attention to what I consider our careless method of placing our finances in the hands of inexperienced men each year. Our custom of electing a treasurer to serve for a single year is unjust, both to the treasurer so serving and the association. We blunder through our first year, gaining experience to fit us to handle this office successfully, and then we are either advanced or turned down, and another inexperienced man takes charge of the finances for a year. I would respectfully suggest that we elect our treasurer for a term of three years, gaining thereby two years of good service. I trust the members present will consider these matters of sufficient importance to argue them and pass upon same."

A short discussion ensued upon Mr. Varney's suggestion, and it was discovered that an amendment to the constitution would be necessary to carry it out, after which Mr. J. H. Schneider read a paper on the "Illegitimate in Photography." He gave as an instance a party receiving a reward or prize said he had thrown the negative away, being so much undertimed as to render it utterly worthless. Seeing certain effects in a painting, he had one day brought it from the waste box, and making a print, which, of course, was flat, weak and gray, called it "Winter Twilight," or some such name, although the exposure was made in midday. Now was it improper to award a prize to that picture? Some might say the man deserved it for taking advantage of the effect to produce his picture. Others would say, "What is the use of our trying to improve in our work by careful study, when a failure gets the prize over our honest efforts?" [Applause.] We surely can not improve by having a failure held up to us as the standard of excellence. Under this condition the work was not legitimate.

Then followed the statement that "Pictures containing other than that which can be produced by photography pure and simple, should be considered illegitimate."

In conclusion he said : "I will repeat that any effect, no matter how odd, if it was one sought for knowingly, and was obtained by a purely photographic method, will have to be classed as legitimate. However, I do not believe in encouraging absurdities under the guise of art. I sometimes feel that a good many of us trust in a blind way to the word 'art' to excuse us in making any kind of freak. [Applause.] By the word 'freak' in this instance I mean any effect produced outside of the limits of good sense and good taste." [Applause.]

Prof. Lorado Taft, of the Chicago Art Institute, was then called upon by the president, and we are sorry that our space is so limited that we shall have to content ourselves with a few extracts. Professor Taft is an artist to his finger tips, and he cannot understand why some photographers should try to place the art qualities below the technical or scientific side of photography, and as an artist he had been as much shocked by the expressed opinions of some photographers that all this talk about the old masters was rot, as an orthodox minister might be at some outspoken heresy. In the course of his remarks he said : "To one gentleman who asked me what I thought of his pictures, I told him he had some of the best, and some of the worst things here, to my mind. I was surprised when I reached here a few days ago to find that there are two decided elements, two decided camps, among the photographers. That is, the artists in their line, and the imitators of the old. To some of us the old masters are the foundation of our faith ; they are like the Bible to the Christian. We take it for granted that the old masters, as of the old prophets, that what they said was true, and we found our belief upon that. So when I find here that some of you consider that a mere species of rot — as it was so retailed to me — that the old masters had nothing to do with the modern masters — modern photography, I was a little startled. I had not just met with such expressions in Ohio last summer, where I received my very first experience of photographers — because I may as well confess that I know nothing about photographers in general, as you will find out. I have had nothing to do with them in their personal relations, except last summer in Ohio. There I found a band of people so earnest, so appreciative of the artistic in general, that I took it for granted that that was the spirit of every photographer in this country ; and so I was a little bit startled, shocked, when I heard such expressions as I heard yesterday in regard to great artists. I have found that there is an entirely different standard erected by some of you for the photographer and the painter. I don't believe in that. You have not won me over yet ; in fact, the more opposition I hear, the stronger I feel in my view, and I suppose the stronger you feel on your side — some of you. This is what I am worrying about — the fact that some of you consider detail everything in art. A certain amount of detail is good ; a certain amount of detail is necessary in every art ; even in sculpture I like to see even the veins and the arteries throbbing, as was suggested here the other day ; but I don't like to see a marble bust that you can comb with a fine tooth comb ; I don't want to see every hair. Neither in the human face in a photograph do I care for a microscopic illustration of the pores. If you are going to do that, why don't you take a stronger lens and make the pores still more evident ? Why don't you make it scientifically accurate to the most minute ramification of every pore ? Why should you delight in representing every individual hair ? Why don't you go farther and illustrate the follicles themselves ? You could show each one of the hairs if your lens was strong enough, if you really believe that to be of interest to the public. You say the public demands such minute attention to detail. You say your first consideration is financial success. I grant that that object is legitimate enough ; we have all got to live ; but I claim that the public do not ask that. Many of you think they do ; but you have trained them to it ; you have told them that was artistic perfection ; that every single wrinkle — except in a lady's face, where there are no wrinkles — have got to be represented, and counts so much toward success. I don't quite believe in that; I don't think that is a necessity. When I am looking upon the face of a friend, I am not looking for moles, or counting the hairs that come out of those moles on the face. I am not looking for each individual wrinkle, or the pores. I am getting a general impression of that face in the mass.

Negative by Morton M. Howie, Milwaukee, Wis.

"I think we are at a disadvantage in photographs, because the details, for instance, of a lady's hat, are so inflexible, so insistent in the photograph. In nature the head is generally bobbing. We toss the head around and smile. You are looking at the lady and her face, studying her, not the head. In the picture in the exhibit the technical effects shown in the lady's hat are fine from that standpoint. The shadow under the hat is fine; that was evidently the object sought in the representation. It is a beautiful piece of modeling, but, after all, it is the head that cries out for attention. I am getting a little tired of the picture of the hat; the embroidery, etc. It is the hat, not the face. How to avoid the difficulty I can not see. But this man is big and broad enough to avoid them if he tries. The impression on me is not that of a portrait of a lady, but of a lady's hat.

"But I would much prefer to dilute this and give it you in individual doses in the other room. I enjoy talking with you before your groups of work. I never go before the best work without discovering beauties, and presently, some faults. I am making delightful discoveries in there. The best thing in that place is the evident desire to progress; the fact that you are learning to do things better all the time, setting an example for emulation. I see there, too, something which should make every American proud of his country, the splendid types of people among the lowly — no low-browed peasantry, such as you see in Europe among the men and women with the hoe, but the beautiful women, strong and rugged-faced men, lovely and flower-like children. Those testimonials to American manhood and womanhood which I find there, make me grateful to the photographers who have brought them together as so many beautiful examples of their art. I thank you for your attention." [Applause].

Mr. Scherver gave notice of an amendment to the Constitution, making the treasurer's term three years instead of one.

Mr. Lancaster, of Nebraska, spoke of the work of the Nebraska State Association, and tendered a hearty welcome to the members of the Photographers' Association of America to the next convention, after which Mr. Pirie McDonald read the following report of the Committee on Daguerre Memorial :

To the Officers and Members of the P. A. of A.:

It is the sense of the Daguerre Memorial Committee, appointed by you, that the following resolution be submitted to the Association for approval :

Resolved, That the science of photography should be represented in the Congressional Library at Washington by a tablet, or a bust of Daguerre ; or in some fitting manner agreeable to the directors of that institution.

C. M. Hayes, chairman, Detroit, Mich.,
George Steckel, Los Angeles, Cal.,
Pirie McDonald, Albany, N. Y.,
F. W. Guerin, St. Louis, Mo.,
G. Moses, New Orleans, La.,
Committee.

Mr. McDonald : I move the adoption of the report and resolution.

Motion seconded and unanimously adopted.

After some discussion the committee was directed to look up the history of photography so that the rival claims of Daguerre and Nièpce St. Victor should be settled, Mr. W. Woodbury suggesting that the two names would have to be placed in the Congressional Library, Nièpce St. Victor's being first.

On motion, meeting adjourned.

FOURTH DAY, JULY 21.

This was a meeting for routine business. There were the usual speeches on the part of those who were advocating the various places for meeting next year. Milwaukee, Wisconsin, was chosen. Then the Nominating Committee having presented its report, the members proceeded to ballot for officers, the ballot resulting as follows :

President, S. L. Stein, Milwaukee ; first vice-president, G. B. Sperry, Toledo, Ohio ; second vice-president, George Edmondson, Cleveland, Ohio ; secretary, Mr. Naushaumer ; treasurer, Mr. Barrows.

The awards were then read by ex-First Vice-President Stein, as follows :

AWARDS.

EASTERN DIVISION.

Class A.—First, No. 35, Charles V. Schwab, Bradford, Pa.; second, No. 52, J. W. Kellmer, Hazelton, Pa.; third, No. 108, A. G. McMichael, Detroit, Mich.

Class B.—First, No. 42, Don C. Scott, Friendship, N. Y.; second, No. 51, Elias Goldenski, Philadelphia, Pa.; third, No. 131, E. F. Gray, Watertown, N. Y.

Class C.—First prize, No. 145, S. Sharpsteen, Grand Rapids, Mich. Rating for the following, namely : No. 44, S. H. Lifshey, Brooklyn, N. Y.; No. 97, P. R. Young, Oneonta, N. Y.; No. 110, A. McFarland, Elmira, N. Y.; No. 10, Rogers & Newing, Binghamton, N. Y.; No. 32, William H. Towles, Cumberland, Md.; No. 21, Van B. Wheaton, Amsterdam, N. Y.; No. 53, W. W. Cowles, Seneca Falls, N. Y.; No. 118, John W. Acker, Hornellsville, N. Y.; No. 8, T. H. Black, Jamestown, N. Y.; No. 141, W. J Cairns, Newark, N. J.; No. 130, John H. Kemp, Scranton, Pa.

EASTERN DIVISION.

Class A.—First, No. 93, Moore & Stephenson, Atlanta, Ga.; second, No. 11, J. E. Griffin, Wheeling, W. Va.; third, No. 17, A. A. Hitchler, Houston, Tex.

Class B.—Silver medal, No. 47, W. J. Chambers, Montgomery, Ala. (No competition.)

Class C.—First, No. 119, W. G. & A. J. Thuss, Nashville, Tenn.; second, No. 75, W. J. Erskine, Huntington, W. Va. Special bronze medals : No. 73, E. B. Peddinghaus, Birmingham, Ala.; No. 23, G. Moses & Son, New Orleans, La.

WESTERN DIVISION.

Class A.—No competition.

Class B.—First, No. 74, A. L. Jackson, Tacoma, Wash.; second, No. 38, Struck Aune, Portland, Ore.

Class C.—First, No. 43, J. A. Brush, Minneapolis, Minn.; second, No. 139, H. Lancaster, Omaha, Neb.; third, No. 124, P. H. Bower, Leavenworth, Kan.

Special Awards.—No. 14, F. W. Vorhees, Albuquerque, N. M.; No. 30, Frank W. Medler, Spencer, Iowa ; No. 96, Charles Nast, Denver, Colo.

Miniature Class.—First, No. 62, Pirie McDonald, Albany; second, No. 58, James Arthur, Detroit, Mich.; third, No. 19, Edmondson & Decker, Cleveland, Ohio. Special award, No. 31, D. Rosser, Pittsburg, Pa.

COMMERCIAL CLASS.—First, silver—No. 64, John Betz, Jr., Baltimore, Md.; second, bronze—No. 112, J. B. Schriever, Emporium, Pa.

LANDSCAPE CLASS.—First, silver—No. 16, L. V. Kupper, Edinboro, Pa.; second, bronze—No. 28, George E. Tingley, Mystic, Conn.; third, diploma—No. 84, Robert Wilkinson, Montpelier, Vt.

MARINE CLASS.—First, silver—Allan Fanjoy, Sault Ste. Marie, Mich.

GROUP CLASS.—First, silver—No. 125, P. H. Bower, Leavenworth, Kansas.

FLASH-LIGHT PICTURES.—By George Lawrence, of Chicago; special award of silver medal, and the hearty thanks and congratulations of the Committee of Award.

INTERIOR CLASS.—First, silver—No. 7, Wm. Koehne, Chicago, Ill.; second, bronze—No. 138, H. Lancaster, Omaha, Neb.; third, diploma—No. 94, Beckman Brothers, Saginaw, Mich.

FOREIGN CLASS—Your committee did not feel that the quality of the exhibits merited a reward.

GRAND PORTRAIT CLASS.—First, No. 61, Pirie McDonald, Albany, N. Y.; second, No. 41, Dudley Hoyt, Rochester, N. Y.; third, No. 56, James Arthur, Detroit, Mich.; fourth, No. 18, Decker & Edmondson, Cleveland, Ohio.

To the latter two your committee recommend diplomas.

GRAND GENRE CLASS.—First, No. 122, Geo. H. Van Norman, Springfield, Mass.; second, No. 57, James Arthur, Detroit, Mich.

COMPLIMENTARY CLASS.—In the complimentary Division are two examples of photography which call for a special award. They are entitled "The Evening of Life," by Van Norman, of Springfield, and "Portrait of a Man," by Schriever, of West Bend, Wis.

With this concludes the somewhat arduous, responsible, but nevertheless agreeable task of your committee.

Respectfully submitted,
GEORGE G. ROCKWOOD,
C. M. HAYES,
I. BENJAMIN,
Committee.

The rest of the session was taken up with the usual complimentary speeches by the officers elect and prize-winners. Adjourned.

FIFTH DAY, JULY 22,

Was taken up with resolution of thanks to all who had contributed to make the

Negative by D. H. Swiler, THIRD PRIZE. Harrisburg, Pa.

convention a success — to the manufacturers, the press of Jamestown, the citizens of Jamestown, the American Aristo Company for the school of photography, etc., after which a committee was appointed by the chair, consisting of Messrs. McDonald, Hayes and Kellmer, to purchase in the name of the association a suitable token to be presented to Mr. Charles Abbott.

After a vote of thanks to the retiring officers, and three cheers and a tiger, the convention of 1899 closed.

CONVENTION NOTES.

The attendance was larger than last year and the display of photographs was better; there was also a larger number of manufacturers represented.

The American Aristo Company had, as usual, a fine display, which was crowded all the time. The school of photography conducted by them was well patronized and gave universal satisfaction. The other firms represented were:

DRY PLATE MAKERS.

Cramer's Dry Plate Company.
Seed Dry Plate Company.
Hammer Dry Plate Company.
Standard Dry Plate Company.
Lovell Dry Plate Company.
New York Dry Plate Company.

OTHER FIRMS.

E. & H. T. Anthony Company.
Scovill & Adams Company.
H. Lieber Company.
A. M. Collins Manufacturing Co.
Nepera Chemical Company.
New Jersey Aristotype Company.
London Chemical Company.
The Haller-Kemper Company.
Eclipse Aristotype Company.
Butts & Adams.
Peter Diller.
James H. Smith & Co.
Allen Brothers.
Jamestown Photo Paper Company.
W. P. Buchanan.
Horgan, Robey & Co.
Cheyney-Hood Company.
Rough & Caldwell.
James Inglis.
Al Vista Panoramic Camera Company.
J. Sussman.
Morrison Company.
L. W. Seavey.
Cincinnati Photo Stock Company.
Grehelman Photogravure Company.
Globe Scenic Company.
G. R. Lawrence.
Worcester Engraving Company.
Robert Keller Ink Company.
Illinois College of Photography.

There was no mistaking the feeling of the members with regard to the first vice-president. Mr. George Sperry has worked hard and faithfully for the association, and he fully deserved the honors conferred upon him, and the enthusiasm with which the announcement of his election was received testified that his work had been appreciated.

One of the most attractive exhibits was that of the Nepera Chemical Company, which included a fine display of tastefully framed prints upon Velox paper. The pictures exhibited included the work of many notable professional and amateur photographers, who have adopted this method of printing in preference to any other.

The Nepera Chemical Company has this year introduced three novelties: one, a machine, by means of which a large number of Velox prints can be made in a few hours. The company exhibited the machine at work, and it attracted a great deal of attention. They also exhibited some long strips of photographs made by this machine, and the remarkable evenness was at once apparent.

Another novelty was the double-weight Special Rough paper. The thickness of this paper is so great that prints can be handled without fear of being torn or mutilated, and naturally require no mounting.

The third novelty is a sensitized postal card, one side being prepared with a Velox emulsion. The company exhibited two frames containing a collection of these postal cards, including some very choice little bits, taken from parts of negatives. Indeed, by skillful vignetting it is possible to obtain a choice little bit from almost any negative in the possession of the amateur or professional photographer.

UNDER THE SKYLIGHT.

ARTISTIC POSING FOR PHOTOGRAPHERS.

CHAPTER XI.

In a pose indicative of prayer and supplication not only the eyes but also the entire head must be turned upward, very often indeed do we see such a thought portrayed by the eyes cast down. Such a portrayal never carries the idea which is intended that it should convey, simply because the downward droop of the eyelids, accentuated by the forward inclination of the head, is suggestive only of humility and not reverence. In the latter the first consideration seems consistent, namely, that when pious thoughts prevail man should turn his eyes from things earthly to the purer objects above—an action which is not voluntary but irresistible — hence in all poses which are supposed to represent reverence, devotion, agony of mind; in all sentiments of pity, the eyes assume that position — raised by an action neither taught nor acquired, and when united to a slight parting of the lips and an upward raising of the joined hands we have a pose the slightest glance at which is sufficient to tell of appeal and supplication to some superior power. (Fig. 72.)

On the contrary, when we take the same upturning of the head, close the lips and let the eyelids droop over the eyes we have a suggestion of haughtiness and scorn (Fig. 73); but if the same pose, so far as eyes and head go, remain the same, but alter the line of the mouth to one suggestive of gaiety and laughter, we have a representation of undisguised mirth and careless abandon (Fig. 74). The same pose with a change of the inclination of the entire head and that downward—the eyes still fixed upon the lens—gives us a feeling of coquetry and mirth.

And now we have come very nearly to the end of our subject, save for a few thoughts and reminders to the photographer who has plodded along with us through the preceding chapters, and I shall try to condense even those so that they will not tax too much his patience and courtesy; and, to begin with, I would say a word upon the subject of the "Old Masters." Time and time again do we have this subject rehashed and dished up for the photographer's benefit and he is told to study much their works and to observe from them certain salient points as regards lighting and posing. Now I, personally, do not advocate any such course, for in the first place the ordinary everyday photographer is not generally in a position

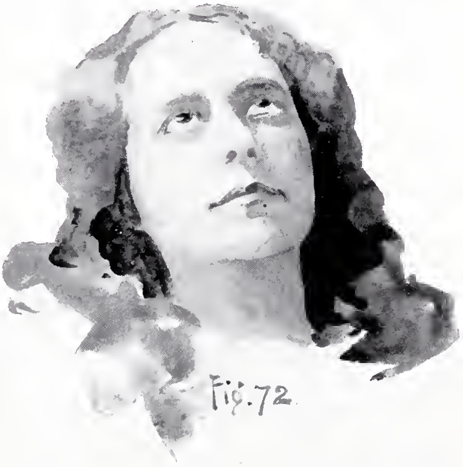

Fig. 72

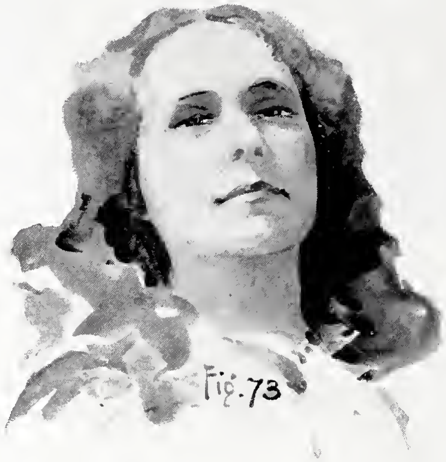
Fig. 73

when he can have access to many of those old masters, but another thing is that those who are generally strongest in their advocacy of such study entirely neglect to take under consideration the fact that a very great amount of art training and knowledge is absolutely necessary before one can appreciate or understand the subtilties of shade contained in them. But above all other objections is this one—why should the photographer of today who has to deal with the figures of today want to study the figures of a bygone past? The dress or costume is entirely different; and, to my mind, the photographer who wishes to advance himself in his art is simply wasting his time in any such study. Personally I would much rather spend one hour before the works of a few modern illustrators and artists than I would one day surrounded by a galaxy of the very much overrated "Old Masters."

But study — constant study — is absolutely necessary that the photographer may advance in his work and produce better and more artistic results, and if we declaim against the "Old Masters" then what do we offer in their stead — a very good substitute, indeed, and a more intelligent one — namely, the works of the artists of the present day. There is scarcely a magazine now published that does not contain a mass of the most helpful suggestions to the photographer in the graceful arrangement of the pose of the figures, and when we take the reproductions of the works of such men as Gibson, Menzell, Leon Moran, Eric Pape, Clinedinst, etc., whose whole time is spent practically in the creation of artistic poses, and who have had the advantage of many years of art study (including the "Old Masters") in the leading art schools and institutions of the world, we may take it for granted that whatever idea of composition or shade has been found worthy of copying from those old canvases has most surely been embodied in their own subsequent work. Therefore, I do not hesitate to say that the study which will be the most likely to be of assistance to the photographic worker of today is that of today's illustrators, who are recognized as being at the head of their profession.

Now, it is not to be supposed that a knowledge of the various rules which have been set down here is all that is necessary for the production of artistic work; they are rather the skeleton upon which artistic work may be constructed, and without a knowledge of which all continued effort is without avail—nothing very advanced has been treated, and all the rules of art that are unnecessary to the photographer have been carefully avoided and omitted altogether from this work, in order that no confusion

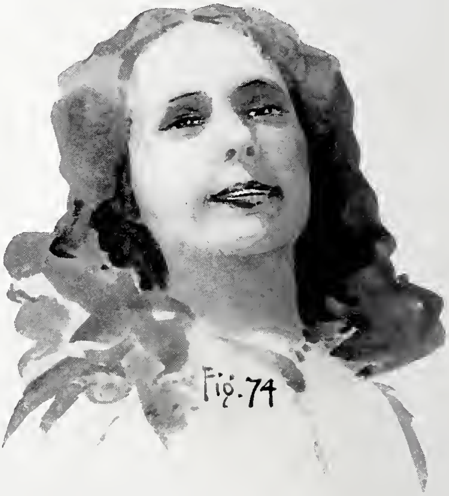
Fig. 74

Negative by Frank E. Foster, Iowa Falls, Iowa

FEEDING BOSSY.

may result, and it is certain that a complete mastery of these primary principles (which will only come with intelligent reading and application) will tend to a better and more complete artistic result. All branches have not been considered, and some have been ever so lightly touched upon, but on the whole an honest effort has been made to avoid tiresomeness and repetition, and, above all, confusion.

R. James Wallace.

HOW TO MAKE A TONING TRAY CHEAPLY.

FOURTH PRIZE ARTICLE.

I have made several toning trays as follows, and find they are excellent:

Go to any drug store and get a small sized box such as are used for shipping card mounts, etc., in, using the size you prefer. If it is too deep, measure with pencil and saw off as much all around as you like. Next get some ordinary pitch, such as roofers use. You can get that at a tinner's, and it costs but a small sum. Next cut strips of muslin about an inch wide, enough to lay along the box where it is joined together; fold in middle and lay carefully the fold on seam of box. Then take an old tin fruit can, put pitch in, set on stove, melt. Put a pin in each end of strip of muslin to hold in place, then pour melted pitch along strips of muslin. When cold and set pour pitch over bottom of tray; then pour over outside and in, thoroughly covering. When it is cold pour water in, let stand awhile. When it is ready for use the strips hold the pitch and keep it from cracking on seams. The trays cost me nothing at all as any one will give you all the boxes you want, and if you know a tinner he will do the same with pitch.

Mary E. Flenoy.

Corner N and Washington avenues,
Danville, Illinois.

THE DARKROOM

THE DARKROOM AND ITS ARRANGEMENT.

SPECIAL.

Experience is the school at which I have learned what I know about the darkroom, and although its tuition has been dear enough for me, the knowledge gained is now given to the readers of THE PHOTO-BEACON. Perhaps I may be better understood when I say that I have worked in a tent for the past three or four years, and from the first I had a great deal of trouble in making and keeping up my darkroom; different plans were tried only to be found fault with and discarded. Finally I studied out a plan which was immediately put into practice, and the result has been so satisfactory that I now give it to the fraternity, believing it will be of much benefit to those who need a light, portable and inexpensive darkroom. The size may be changed to suit one's need and room, but would advise to make it at least 4 feet 6 inches square, and if a water tank and sink is to be used in it, which will be found very useful, would recommend 6 feet square if possible.

As the frame is the main feature that distinguishes my darkroom from all others that I have seen or read about, I will first describe how to make it for a darkroom 4 feet 6 inches square. Take some pine strips 1 inch thick by 2 or 2½ inches wide (mine are 2¼ inches), and cut two pieces 4 feet 4 inches long for top and bottom of frames. Then cut two more pieces, 6 feet 6 inches long; these are for the upright pieces. Now cut four pieces for the braces, 2 feet 2 inches long, and last cut four pieces 6 inches long to put under one end of the braces. This is all that is required to make one side of the frame. A diagram will now help you more than words to see how to put them together.

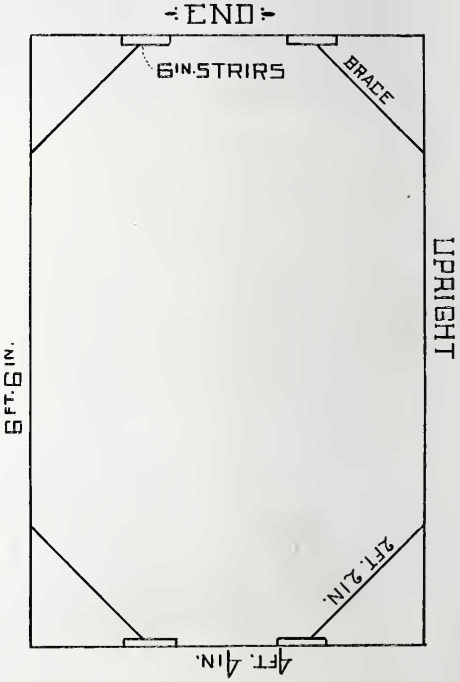

FIG. 1.

Place the two end pieces down and nail the side pieces on top of them, clinching the nails well. Now put the 6-inch pieces in place, nailing them down. Next come the braces, which, when put on, completes one side of the frame. Finish by cutting off projecting corners of braces. The other side is made exactly the same. Now cut four pieces 4 feet 6 inches long; these are to connect the two sides of the frame. To put them together, place the two sides of the frames with the braces inside or next to each other so the outside will be smooth, nailing them in the outside or end pieces of the frames only.

Now, to brace the frame after it is thus nailed together is necessary. For this take "baling wire" or wire that is used for tying up baled hay. Bore small holes with gimlet near outside of pieces near the end of each of the four pieces that hold the two sides together, except the side which is to be used as a door. The top and bottom piece should have the holes for the wire about 1 foot 9 inches from ends next to door so as to leave the doorway clear. Fasten the wires well at top end and crossing each other; fasten tightly to bottom, using a carpenter's square to keep the sides square, so as to keep the frames upright.

Another set of wires put in at top of frame as now completed is the final step. Bore holes again in same pieces as before, at top. Take two wires and fasten, cross and fasten tightly, as before. I always draw these wires until they "sing" when I strike them. The drawing will now show the finished frame.

The covering for our frame is the next consideration. In my own I used a covering of black silesia one thickness, and two of brown cotton flannel; one next frame with matted side turned to middle, silesia in between cotton flannel coverings, with cotton turned in for the outer covering, leaving the part for door open and sewing strips about eight inches wide to use as a lap, so as

Negative by S. L. Ketchem, Burlington, Vt.

A VERMONT SUNSET.

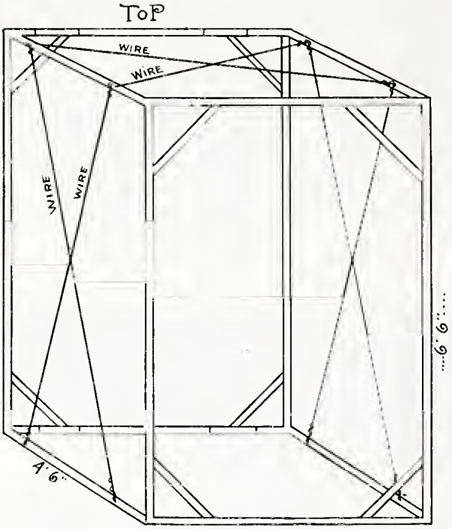

FIG. 2.

to protect the doorway from light entering. The door may be tied with strings or fastened with pins. The covering should be about three inches longer than frame is high, so that it may be tucked in under frame to exclude light. A covering of black silesia, with another covering of heavy black oilcloth with seams sewed like a tent, would probably be found good.

The arrangement inside would, of course, depend on what is to be kept in the darkroom. Usually I keep some plates, developers ready for use, fixing bath, tripod, plateholders, printing frames, dusting brush, graduates, developing trays, work table with sink, and upon this at one end a 16-gallon water keg with faucet turned over sink.

I place them in darkroom as follows: To the left as you enter the door and running the length of the room is my darkroom table, which is 4 feet 4 inches high and about 2 feet wide, with a shelf about 1 foot high above the floor made of 2-inch strips 1 inch thick and 2 inches apart. This shelf is for developing trays. In the top of the table I have a galvanized cast sink with waste pipe. At the end of the table farthest from door I place upon a box 5 inches high a 16-gallon water tank with tap turned over sink. Underneath the table I have the fixing bath. At the farthest side of darkroom, between water tank and the right-hand side of the darkroom, I have a series of shelves, which may be made of old boxes, as mine are, or may be made to order. In first shelf, or bottom, place stock solution, bottles, etc.; second shelf, developing solution, bottles, graduates, funnels; third shelf, dry plates, plateholders; fourth shelf, printing frames. On top of these shelves I have a light-tight box for plates handy, for use both before and after development. In one of the top pieces of frame, to right of this box, drive a nail for camel's-hair brush. On one of the wires overhead hang darkroom towel. I also have my tripods tied up to these wires; they are then out of the way and have a place of their own. The darkroom lantern I place on table at end next door or at opposite end from sink. This arrangement, of course, may be modified to suit the need of the photographer, but this will be found to meet all ordinary needs. I often use a small oil heating stove to warm up the darkroom when the temperature is low, before developing. A ventilator would be found useful, especially to those who have any throat or lung trouble, which may be made of a light box 18 inches square, placed over center at top, and cutting an opening in cloth for ventilation, placing divisions 1 foot wide in box to exclude light, thus:

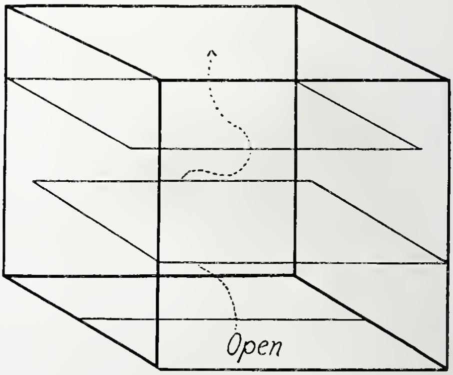

FIG. 3.

as recommended by H. P. Robinson, in "The Studio and What to Do in It." Coat box inside with dead black stain.

While the darkroom I have described was designed for tent use, it will be found very satisfactory anywhere, especially the basement. Its advantages are simplicity, cheapness, portability, being easily moved to any part of room and very serviceable.

Frank Frost.

Roswell, New Mexico.

TOLLIDOL.

In recent issues of certain photographic journals statements have appeared that this developer is simply a compound of metol and other well-known agents. The manufacturers of Tollidol write us to say emphatically that Tollidol does not contain metol, and that they are proud to find that others recognize its merits so much that they are glad to advertise their compounds as being "as good as Tollidol"—which may or may not be correct.

HOW TO MAKE A STOCK DEVELOPER.

THIRD PRIZE ARTICLE.

A stock developing solution for amateurs who develop only occasionally should be simple, ready and capable of variation or manipulation, according to the character of the plate developing. For a simple developer and yet one very general in its application, the following formula has given good satisfaction :

Sulphite of soda (crystals)	30 grains
Carbonate of soda	30 grains
Hydroquinone	10 grains
Water	4 ounces

To prepare stock solutions, take two 16-ounce bottles ; label one —

Carbonate Soda — Stock.

30 grains to the ½ ounce.

the other —

Sulphite Soda — Stock.

30 grains to the ½ ounce.

If desired, the bottles can be graduated by pasting upon one side a strip of paper ; pour in one ounce of water ; draw a line on the paper at the upper edge of the water and mark "1 oz." ; pour in another ounce and mark "2 oz." ; continue until the bottle is full. By the use of a file the graduation can be scratched in the glass.

Dissolve in sixteen ounces of pure water 1 ounce (480 grains) of carbonate of soda ; carefully filter, and put in bottle labeled "Carbonate of soda." Dissolve in 16 ounces of pure water 1 ounce of sulphite of soda ; filter and put in bottle labeled "Sulphite of soda." These solutions in this form will keep indefinitely, and will always be ready for use. The active agent, the hydroquinone, does not keep as well in solution, and as it would be a long time before the amateur who does only occasional developing would use an ounce, it is advisable to keep it in crystal form. As it dissolves readily, little time is lost and we always have a fresh developer. For convenience the hydroquinone may be made into powders of ten grains each.

To develop, put into the graduate ten grains of hydroquinone, three ounces of pure water, and add one-half ounce of carbonate-stock and one-half ounce of sulphite-stock, and the developer is ready for the plate.

The strength of this developer can easily be varied to compensate for changes in temperature and character and time of exposure. In hot weather add more water ; in cold weather, less water. For instantaneous exposures use a stronger solution than for time exposures, especially stronger in carbonate of soda. For under-exposures increase the amount of carbonate of soda ; for over-exposures, increase the amount of hydroquinone, and a few drops of bromide solution may be added. In this developer the image appears slowly, giving the operator time to detect faulty exposure and opportunity to apply the remedy. Thus we have a developer ready, simple and general in its application.

M. L. Bishoff.

Eudora, Kansas.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

THE SQUEEGEED PRINT.

SECOND PRIZE ARTICLE.

Squeegeeing P. O. P. prints on glass or other smooth surfaces in order to give them a highly glazed effect, is a process that the photo annuals and photo papers have given many notes on from time to time, and the subject seems somewhat stale. The writer's excuse for offering his method is that his prints *never* stick to the surface on which he squeegees them, or fail to come off without as highly polished finish as any one could desire.

I do not claim that my method is altogether original, only so in three or four points, and to those details I believe I owe my success. If prints are toned by a separate bath and washed for an hour and a half or two hours, as most of the formulas recommend, they become exceedingly soft from their long immersion in water and their surface is very easily damaged by the finger nails in handling, unless care is used. The emulsion seems to loosen from the paper and stand out from it in a soft mass. Is it any wonder, then, that when they are squeegeed down on some clean, smooth plate that they refuse to strip off when dry with that beautiful surface which so delights the young photographer and is so ruthlessly condemned by our more artistic (?) brethren. In the long washing the chemicals which the manufacturer has put in the emulsion to harden it and make it adhere to the paper become washed away and it is easy to see the result. I use both combined and separate baths, but I do not wash longer in the case of a separate bath print than one hour or a combined toned print than one hour and a quarter. Of course, my prints are kept in a tray in such a way that they are all moving under running water.

I let my prints dry after the final washing — thoroughly dry ; over night is best. Next taking the batch of prints I put them one by one into an alum bath, the strength of which is about two and a half ounces to fifteen ounces of water. This bath I make by putting the alum into as hot water as I can get, as alum is very hard to dissolve well. It is important that you move the prints around well in this bath because if there are any spots on the prints that the alum water does not reach well in the four to six minutes that you have the prints in this bath, those spots will stick like wax when you come to press them down on glass.

I do not give the ten-minute washing after the alum bath that most formulas say we should do, but just rinse them well in clear, clean water for about a minute or two. They are now lying in a tray of clean water ready for squeegeeing on the surface selected. Most writers on this subject, or at least a good many, recommend ferrotype plate ; but I found that, in spite of all the care I used, the ferrotype plate soon became scratched and bent ; besides it is not as easy to handle in washing, and if tacked to a board it will soon rust around the edges. In every way I consider glass superior for the purpose. There are in most cities and all large towns stained-glass stores where you can buy any size piece almost of plate glass that you ask for. If you would have the best for squeegeeing get that which has just been polished for mirroring. This quality of glass is very hard and the surface not easily marked up with continual use. It is almost useless to try and get satisfactory work on poor glass ; it may feel smooth to the hand, but it is rough when felt by the pliable gelatin surface of a print. The glass I use and have enameled hundreds of prints on is large enough to take nine 4 by 5 prints on each side. It is rather large to handle and is nearly a half inch thick, but it can not break if it falls from the hand. This kind of glass is not expensive in, say, 8 by 10 or 10 by 12 sizes.

I wash the glass with as hot water as my hands can bear and then take a fresh lot of water and use soap this time well over both sides, and then repeat the hot water and soap again. I have no hesitation at all in condemning those people who would lead the innocent amateur into using French chalk, furniture cream and such like decoctions to polish the glass with after washing. It is an awful mistake, as any one will find out. The object of washing the glass is so that there will be nothing on its surface but bare glass, and after putting chalk and like stuff on we double our work in having to wash it off again. Stick to soap and hot water and you are all right. The only thing outside of that I ever used was when working with an inferior piece of glass, I used a little coal oil on a rag and rubbed the glass with that.

Don't dry your glass after washing it, but lay it down on a sheet of blotting paper on a table; place the tray beside it and one after the other flop your prints over on to the glass with all the water you can carry with them, so that if you put your finger on the back of them they will slide around easy. Place a sheet of blotting paper over the back of them and pass a double-roller squeegee over them *once*, with just a moderrately firm pressure. Herein lies the secret. If you press them over firmly three or four times they are sure to stick. The reason, I have thought, is this: that the preparation which the paper is coated with to make the emulsion adhere well gets, under the extra heavy pressure, diffused through the gelatin in its wet state, and consequently the prints are glued to the glass. I never go over the prints with my double roller more than once. After that, I set the glass on a window sill where the window is up about four inches, and where there will be a good draft over them. Here I have sometimes had them come off in an hour and a half. I do not recommend putting the glass near a stove, because the excessive heat sometimes affects the wet gelatin in drying. In winter time, however, the glass can be stood in a room where a coal fire is burning, but away from the stove.

I very often have the prints slip off of themselves without their having to be stripped by the corner with the hand. If they do not come of themselves they should not require any more assistance than prying up the corner with the finger and then strip easily. If the prints come off hard, they show that they have not dried properly and the gloss will not be nearly as lasting. I would not give thanks for a print that has to be taken off with the ticklish maneuvers of a sharp knife, because ten to one you will make a hole in somebody's face or cut off the top of the chimney.

To mount the prints without losing any of the fine surface there are two ways. One for the careful is this: Place the print on the corner of a thick book lying on the table, and then, with the point of your brush, paste an edge around the print about ¼ inch wide. The bunglers must cut a piece of paper, or, better still, a piece of tin a ¼ inch less in size than the print, and to the center of one side glue a spool for a handle; then they can lay the print face down and the tin on the back and paste the edge at leisure. The prints must, directly after mounting, be put under the heaviest pressure or weight at your command — I put mine under the leaves of a book and stand on it while I am getting the next print ready. If you have access to a letter-press you are in clover.

I believe that prints enameled in this way keep better and longer than those passed through a hot burnisher, because the surface of the paper is so hardened that atmospheric changes make less impression on it and they keep clean longer.

In conclusion, Mr. Editor, I might say that I did not read the May number of THE BEACON, or I would have seen that article on this same subject. However, I am glad I did not, or I might have said hard things about furniture cream and a few other matters mentioned therein.

These are the points to be remembered:

1. Don't dry your glass after washing.
2. Don't wash too long after the alum bath.
3. Don't wash your prints more than 1¼ hours.
4. Don't press the prints too hard on the glass; you get no better gloss for it.

FRED A. GRANT.

84 Robert street, Toronto, Canada.

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

USEFUL TESTS FOR PHOTOGRAPHIC IMPURITIES.

In order to insure the permanence of the negative or positive image, it is essential that all chemicals possessing destructive properties be entirely eliminated from the print or film. The average photographer is content with prolonged washing, but the careful and exact worker will wish to prove conclusively the absence or presence of anything likely to prove detrimental.

By the aid of the following tests, the veriest tyro can tell whether his work is perfectly ready for finishing off. The print or plate should be immersed for a few minutes in pure water contained in a white porcelain dish, with occasional rocking, the water being then tested for the suspected substance :

Hypo.— This can be detected in very infinitesimal quantities by means of a drop or two of silver nitrate solution, which gives a black precipitate or a dark brown to pale yellow coloration, according to the quantity present. The latter tint is best seen in daylight.

Mercury (in intensification).— One drop of a weak solution of iodide of potassium gives a red or orange precipitate soluble in excess of the test. Sulphydric acid or ammonium sulphydrate gives a black precipitate.

Lead (in combined toning and fixing).— Lead is tenaciously retained by paper, with the subsequent deterioration of the print. The latter should be immersed in weak acetic acid, which dissolves any lead present; with this, iodide of potassium will give a yellow precipitate or bichromate of potassium an orange-red.

Iron (in platinotype and iron developers).— This is also held by paper, and causes yellowing the print. Ferrocyanide of potassium painted on the same strikes a blue if this impurity is present.

Alum.— This sometimes contains iron, and then should be rejected. A solution of tannic acid will indicate, by a blue-black coloration, the presence of this substance.

Sulphur (in sulphur toning).— Characteristic odor evolved when the print is burnt.

Ferricyanides (in reducers).— Ferrous sulphate gives a blue, and nitrate of silver an orange precipitate or coloration.

Oxalates.— A solution of calcium chloride gives a white precipitate.

' Pyro.—Milk of lime gives a purple coloration, turning to brown.

These are the chief impurities met with, and these test solutions should be kept in little stoppered bottles in every darkroom. The small outlay and trouble involved will amply repay the operator; at the same time he will train himself to do his work accurately and well.

All plates should be finally varnished and thus protected from those chemical substances contained in the atmosphere which slowly attack the silver image, and prints — bromides, especially — should similarly be rendered immune by saturating them in a solution of paraffin wax in benzine, blotting off the superfluous liquid, and allowing the solvent to evaporate spontaneously.—*Photographic News*. George Lurcock.

ENGLISH BOOKS ON PHOTOGRAPHY.

We have just received another consignment of over one thousand books from London, and can fill orders at once. We have everything in stock, so please send orders at once to avoid disappointment. These include "Photograms" of 1897 and 1898. These books are nearly all out of print and those who want copies should apply at once.

"A NEW PHOTOGRAPHIC PRINTING PROCESS."

Sir,— On looking through my *Amateur Photographer* this morning I came across a communication to the Edinburgh Photographic Society, entitled "A New Photographic Printing Process in a New Permanent Color." It appears to me to be a modified process of mordant alizarine dyeing. Whether so or not, I have made photographs on cotton cloth fast to light, and washing in boiling soap solution, by process named above, many years ago. I may add, prints — one of which Mr. W. H. Pennington, F.C.S., has had in his posses-

Negative by D. H. Swiler, Harrisburg, Pa.

SCENE AT INGLENOOK, PENNSYLVANIA.

sion many years — were shown to J. A. Bright, late M.P. for Birmingham Central Division, and to many others, to whom the process was explained, which consists (roughly) in sensitizing the cloth in a starch solution containing a bichromate, drying, exposing under negative, washing, or fixing in some suitable fixing agent; washing, then dyeing with alizarine dye, or any dye which requires a chrome mordant. The following give good results: Alizarine purpurine, cœruleïne, galleïne, alizarine black, and alizarine maroon.

Yours truly, Sykes Kaye.

The continuously increasing business of the C. P. Goerz Optical Works has compelled this firm to open a branch office in London's busiest thoroughfare at 4-5 Holborn Circus. Besides, we hear that a second extension to the new factory is being built, to cope as promptly as possible with the ever-increasing demand for the lenses and binoculars for which the firm is so well known.

WASHING PRINTS.

The common or garden way of performing the above operation is to place the prints in a dish, turn on the tap, and at the end of the hour take the prints out, and expect them to be washed. I should like to examine such prints in a few years; I rather fancy they will be yellow.

By adopting the following method, prints may be washed in one-quarter the time, and will stand the most delicate test for hypo: Procure from your dealer a box of Tylar's print hangers. When your prints are fixed, take a print, and fix a print hanger on; now push an ordinary cork through the top. Take a bucket or washbowl, and fill with water, drop the print in, and with the cork floating all the prints are kept separate and vertical, with the result, the hypo simply drops off. Prints hanging thus for half an hour and then rinsed under the tap will keep longer than we shall, providing, of course, they have been well fixed.

THE PRINTING ROOM

MR. W. J. WARREN ON THE GUM-BICHROMATE PROCESS.

An appreciative, if not a large, audience assembled to hear Mr. W. J. Warren descant upon the charm of the gum-bichromate process on Tuesday, March 28, at the Birmingham Photographic Society's room at John Bright street.

The lecturer commenced with a pseudo-apologetic explanation of the process, and it was plainly apparent that he knew that he was to demonstrate a process to a not wholly responsive class of workers, Birmingham until recently being classed among those cities who favored detail rather than its suppression.

Mr. Warren related that Pouncey in 1859 worked practically the same thing, but the invention of pigmented tissue — our present day carbon — by Swan relegated Pouncey's process, except in a few instances, to the obscurity of time, where it waited patiently until it was resuscitated in 1893 simultaneously in France and England, in the latter, among others, by himself. He showed his results to Mr. W. Thomas, who took them to London, where he learned sadly, nevertheless truly, that a Frenchman of Tours recently had placed similar works on view, and that the process, so to speak, was "as old as the hills." Nevertheless, it was a process that more than any other brought out the individuality, the personal equation of taste, of the one who worked it. It was an education in tone.

In continuing, the lecturer now came to the practical work, and gave wrinkles as to the selection of the most suitable papers to be used.

He strongly recommended the brand known as Michalet, distinguished by its horizontal and vertical water-mark, and which had the advantage of two available surfaces. This paper, he pointed out, allowed for any inequality that might take place in coating the paper with the pigment.

Ordinary cartridge — preferably Joynson's — was good; but, in short, almost any paper that was carefully sized might be used.

This brought him to the question of negatives suitable to the process, and he would say, as in every other process, it much depended upon the class of result desired.

Those who wanted purely mechanical pictures must use plucky and clean negatives, while those who desired a print upon which they could impress personal control, such as lifting up high lights or clearing heavy shadows somewhat, might use a negative of a flatter character.

The suitability of subject to the gum-bichromate method was then lightly touched upon, and Mr. Warren urged that the whole system was one suited to cases where *strength* rather than delicacy was the aim of the worker. Those who had observed the results of Mr. Moss would understand the class of thing to which he referred. He hoped ere long to see architectural subjects so treated, and with apologies to the eminent workers in this line in Birmingham, he said that the present method of treatment of architectural subjects was too insistent, too literally true to detail; and on looking at some of the frames of our best men one could not be otherwise than struck with the lack of softness and atmosphere which such subjects and places presented to the eye of the beholder. He hoped this would soon be changed, and gum tried.

Again turning to the technical or practical part of the demonstration, our visiting friend drew attention to the coating and sensitizing of the paper. This, he pointed out, might be done in two ways, and each had its advantage, or otherwise, over its sister method. For instance, the paper may be coated and sensitized at the same time by application of a bichromatized solution of gum, in which pigment of the desired color could be incorporated. In such instances the exposure under the negative is considerably reduced, and compares with the time required to produce a platinotype.

The alternative method was to sensitize the paper in, say, ten per cent solution or other strength; then mix the gum and pigment, and apply evenly to the now dry paper (which drying must, of course, be done in the dark), and in the course of, say, one-half (or one) hour is ready for placing under the negative. This latter method somewhat lengthened the exposure, making it about equal to the printing time of albumen paper.

Now came a word or two about the mixing of the pigment. The color he advised the beginner to use was burnt umber, and this could be procured either as a powder or in collapsible tubes, the latter being convenient. The gum solution was:

Pure gum arabic	2 ounces
Water......	4 ounces

When dissolved add three or four spots of ammonia. This was his solution. The next step was this: Squeeze into the measure the contents (whole or sufficient quantity) of a threepenny tube of the paint before mentioned, and make up to half an ounce with the solution of gum; then to this add half an ounce of water. This gave the substance for coating the paper with.

The color should slightly drag in application, and should be applied quickly and evenly, being softened off with a gilder's badger brush. Mr. Warren here suggested that the coating should be rather strong, then one has no fear of weakness; but the substance of the paper should be clearly visible through the pigment.

He also recommended rather over than normal exposure (by aid of an exposure meter), as it gave one a chance in watching the stages of development. The prints are taken from the frame and developed in cold water, and if not amenable to the laving process, warmer water could be used. A spot or two of ammonia or of sodium carbonate solution quickened the development.

When developed, the prints were subjected to the hardening influence of the alum bath, then rinsed for a short time, dried, and mounted in any desirable fashion. Mr. Warren then coated several makes of paper, and finished by developing some capital exposed tissues which he had brought with him. The lecturer here exhibited some works which were the products of Mons. Demachy.—*The Amateur Photographer.*

EXHIBIT OF PHOTOGRAPHIC PRINTS.

A photographic print exhibit is to be given by the New York Society of Amateur Photographers on October 3, and to last one week. Arrangements are being made to have this exhibit very interesting. It will be held at the society's quarters in the Jefferson building, Brooklyn. The committee is: L. L. Young, A. C. Blancke, W. H. Weygandt and Howard Carter.

When you want a book on any special photographic subject apply to us, for we carry in stock every book published in England on photography. One hundred and fifty different titles.

THE PHOTO-BEACON CO., Chicago.

DURING THE CONVENTION OF P. A. OF A.

A letter was received from Jex Bardwell upon developers, in which he recommended the following:

No. 1.—PYRO.

Water	2 fluid ounces
Saturated solution sulphite	2 fluid drams
Acetone	1 fluid dram
Dry pyro	5 grains

No. 2.—METOL-HYDROQUINONE.

a.

Water	8 fluid ounces
Metol	15 grains
Dissolve and add	
Saturated solution sulphite	4 fluid ounces
Hydroquinone (M. & F.)	60 grains
Ten per cent bromide potassium	1 fluid ounce

b.

Take of a	2 fluid ounces
Acetone	1 fluid dram

No. 3.—EIKO-HYDRO.

a.

Water	8 fluid ounces
Saturated solution sulphite	4 fluid ounces
Eikonogen	50 grains
Hydroquinone	25 grains

b.

Of above	2 fluid ounces
Acetone	1 fluid dram

No. 1 is especially good for transparencies and stereoscopic work.

No. 2 for Velox or strong negatives.

No. 3 for stereoscopic, landscapes and portrait work.

EDITOR'S LABORATORY.

The following tests were made by the editor, personally, last month, and being actual results, bare of all hearsay or conjecture, will afford our readers a correct idea of the quality of the articles tested. All manufacturers of photographic goods are invited to submit samples for testing.

TONING ARISTO-PLATINO WITH SINGLE TONER.—Some months ago the American Aristo Company announced that it was possible to obtain proper tones direct, that is, in one bath instead of two, as formerly, when the washed print was first toned slightly in a gold toning bath and then finished in a platinum solution. The announcement that the paper would work fully as well in one bath meant a great deal to users of the Aristo-Platino paper—a saving of gold and of time—and was eagerly listened to by all. We have heard this claim made before by other companies, and have never until now seen it result in acceptable work. The tones were muddy, seldom black, and the shading of a vignette invariably ended off in dirty, coffee-colored tints. However, to hear the announcement from a company of the American Aristo Company's prominence and reputation meant quite another thing, and we at once procured a bottle of Single Toner as well as of Aristo platinum, which is used for strengthening the single toner bath, if necessary, and proceeded to follow the directions closely, as anyone should do in using a new article. We printed a quarter-gross of 5 by 7 Aristo-Platino paper and some little Aristo Jr., and when all were done laid them face down in a large tray containing a little water. When all were wet and flat we filled the tray with water and let them soak some minutes. Then we changed each print to another tray of water, handling each separately, and continued until all free silver appeared to be washed out, about six changes being required. Then the prints were ready for the single toner, and a bath composed of one dram of single toner and one quart of water was made ready. We immersed the prints a dozen at a time in the bath, and turned them about to prevent uneven toning. The red color of the prints soon started to disappear, and in its place a rich, warm black began to appear. We allowed the prints to keep on toning, however, as no sign of the least deterioration was apparent. The white became exquisitely clear, the darkest and lightest parts all toned well, showing no fading out or yellowing, and finally they were done, and after washing were fixed in hypo bath of the designated strength. In toning the rest, the rich olive blacks, which appear just before the final jet black tone, appealed to our sense of the beautiful, and we removed some of the prints at that stage, securing thereby some of the very finest prints we have ever made, as good as carbons, minus the greasy look of the latter. When the bath began to work slow on the last batch, we added a little platinum solution, as directions call for, and toning went on in absolutely perfect manner. We noticed that if any uneven toning showed at the start, it all toned down to an even black in the end. Red spots occurred upon two prints, and these were removed by touching them with the finger-tips moistened with platinum solution. The trial was a perfect success, and as it is the first time we have known of a paper upon the market which would act in the manner described (and none other save home-made plain silver paper), we have deemed the result of this trial well worthy of calling our readers' attention to, as it is not only a perfectly simple process which any beginner can succeed with, but affords prints of rare beauty, prints unlike any others, as pure in tone as will ever be seen, wonderfully fine.—*The Photo American, August, 1899.*

WHAT IS TECHNICAL EXCELLENCE?

NO. I.

Some of our worthy friends are never weary of asking for "technical" excellence. It is to them a faith, a cult; and their life's work is a crusade for its recovery from the hands of the spoiler. Now, while one can not but admire enthusiasm, even when we regard it as misspent, or spent on behalf of error, yet our admiration is in this case greatly tinged with regret that the preachers in this crusade—may we respectfully call them "Their Most High and Dry Technical Excellencies"?—do not crystallize out their faith in a somewhat more definite form of creed. When pressed for definite statement, we so far find their reply practically identical with that of a very reverend dean when asked for a definition of orthodoxy. Said he, "Orthodoxy is my doxy, and heterodoxy is everyone else's doxy."

From time to time we have studied with the best intelligence we possess the pronouncements of Their Excellencies, and the conclusion arrived at seems to be somewhat to this effect. Technical excellence in a negative or print seems to be conformity with a standard, the approach to one ideal; and is independent of the actual subject dealt with, or the mental object which the photographer had before him. In other words, were Their Excellencies called upon to separate from a thousand prints or negatives the dozen nearest their ideal of technical excellence, we should reasonably expect to find the same characteristics in them all, quite apart from whether the subject before the camera be a landscape, portrait, or scientific object, a still-life study, a wet day, a fine day, a clear day, a foggy day. Also no regard would be paid to the obvious intention of the photographer as to whether he were trying to record elaborate details of a newly erected building or romantic surroundings of a ruin, a portrait of a statesman or study of a stage play impersonation, a topographical view or the impression of some subtle effect of atmosphere or chiaroscuro. One and all must be measured by the same rule, compared with the same standard.

Go a step further, and look at the dozen chosen examples—nay, we need but look at one or two, for they are practically identical, and what do we find? (1) Uniform definition. All planes and parts in as sharp focus as the lens will (under convenient working conditions) yield. And that these fine details may be preserved, we find smooth printing paper chosen. (2) Hence, whatever attention has been given to selection, arrangement, or composition, we find that all parts and planes are presented to the spectator with equal importance, so far as physical structure is concerned. (3) As regards scale of tones or gradation, we here again find uniformity. The apparent ideal is that the best negative for all cases is that with the longest scale and the fullest range of tones, from clear glass to absolute printing opacity. This, of course, means that the ideal print is one with parts quite white, parts as black (or dark) as the process will yield, and as many intermediate gradations as possible; the more the better.—Rev. F. C. Lambert, M. A., in *The Amateur Photographer.*

(*To be continued*)

EDITORIAL TABLE.

We have received from Messrs. Scovill & Adams a copy of the third edition of Dr. Emerson's book, "Naturalistic Photography." This edition is revised, and in parts rewritten. This is a book that no photographer should be without. However we may differ with the Doctor in some of his opinions on old and modern painters, we must give him credit for earnest sincerity, and there is something about the way he treats all his subjects that is at once original and refreshing.

The volume is divided into five parts. The first, called Book I, is theoretical, and treats of impressionism in pictorial and glyptic art, the phenomena of light and art principles deduced therefrom, and naturalistic photography and art. Chapter III, "The Phenomena of Light," etc., is one that should be carefully studied by the photographer, for there he will find clearly defined the connections between the natural (not instrumental) optical laws and the rules of art in regard to focus or concentration.

Book II is devoted to the technical part of photography, treating of cameras, darkroom, focussing, exposure and development, in sixteen chapters, in a masterly and thoroughly practical manner. There can be no two opinions as to the practical value of these sixteen chapters.

Book III is devoted to pictorial art, and here the Doctor is at his best, and although he differs from some who have been accepted as authorities in pictorial photography, his arguments are so convincing that one is carried through the book a willing captive to his ideas. The volume concludes with "L'Envoi" and two appendices. It is well printed on good paper with wide margin, and handsomely bound and lettered, and is altogether one of the most valuable contributions to photographic literature ever published.

We have received from James H. Smith & Co., of 311 Wabash avenue, Chicago, a catalogue of photographic sundries, whose 174 pages is filled with everything in the way of cameras, camera stands, lenses, in fact instruments and appliances of all kinds that an amateur or professional photographer can require.

The same can be said of the catalogue of photographic supplies by Kirk, Geary & Co., of Sacramento and San Francisco, California. There appears to be nothing left out from books of instruction to gummed labels; it is profusely illustrated, and shows that at least one stock dealer in the Sunset State is abreast of the times.

We have also received catalogues from A. H. Spurr, Creston, Iowa, and O. H. Peck, Minneapolis. Mr. Peck introduces a new film camera, the Clipper, made to accommodate 24, 48, or 100 4 by 5 exposures. Its special feature is it has a cutting device which automatically cuts off the exposure by the same turn of the key that brings another in place for exposure.

The "Process Photogram" for July (London, Dawbarn & Ward), is, as usual, filled with good things. The illustrations are exceptionally good, particularly a photograph of an aquarian with fish, illustrating an article on "Photographing Aquaria by Flashlight," by Fabre Domerque. We also notice that there are six pictures of Mr. W. P. Buchanan's cat, Grover. We also notice that among the advertisements in this and other English journals there are not a few of American cameras and other photographic goods.

The Pacific Coast photo dealers have formed an association for mutual benefit, their object being to better the existing trade conditions. The officers are: H. J. Shillock, president; L. M. Kaiser, vice-president; George H. Kahn, secretary-treasurer. Most of the members are located in San Francisco.

THE PHOTO-BEACON.

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Negative by Miss Belle Johnson, Monroe City, Mo.

FIRST PRIZE

THE
PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. OCTOBER, 1899. NO. 10.

IN LONDON.

Since I last wrote most of my time has been devoted to a study of the game of golf. I began the game about fifteen years ago, but being a very intermittent player never acquired very much proficiency in it. But having here an excellent course and lots of time I decided to become more proficient, and so every morning found me following the tricky "gutta" in its erratic wanderings over the green. I have improved decidedly in form and can now play a fairly good game; and better still, have developed an astonishing appetite and attained a complexion that would excite the envy of a red Indian.

A week ago I rather reluctantly interrupted my usual program and started for London in order to make a tour of those interested in photography and see whatever they had that was new. For five days I wandered round the big metropolis, and during that time saw only two things that I considered of sufficient importance to mention to my readers, and even one of these I am afraid will not be put on the American market. It is a new variation of color photography on the plan of the Ives Kromskop, but is only possible with plates that are on the English market.

The other should, I fancy, some day be introduced to the photographers of the United States, as it consists of a new film to be used either in roll or cut size form. A company is being floated to manufacture it in Britain, and those who are pushing it are very sanguine of its success. They show some excellent prints made from negatives made with the film, so that it has every appearance of being practicable. It has been dignified with the title of "Secco" film.

I had the pleasure of seeing through the rooms of the Royal Photographic Society, but they are only in the transformation stage, so that they were not specially interesting. Very different was the Camera Club, which is housed in a very commodious building, comfortably furnished, where a man could spend many pleasant hours each day. I also visited one of the meetings of the Photographic Club, but as it was the "off" season only five members were present, so that the meeting was very uninteresting.

I was very much impressed with the difficulty of reaching the average business man in London. On entering the office a boy of about fourteen waits on you. He wants your name and address, full particulars of your business and intentions, and you wonder why he does not ask you to produce a certificate of good character signed by a clergyman and head of police. All these he dutifully lays before a youth a few years older than himself. He in turn puts you through a severe examination, and apparently notes the character of your pockets to see if you have anything in the nature of concealed weapons about you. He in turn reports to a higher authority, who leisurely surveys you from a distance so as to make sure of your respectability, then proceeds to put you through a regular cross-examination. Fully satisfied, he informs you that he will see if Mr. Blank is in. All this takes about ten minutes. At last you are asked to "step this way," and are shown to a room that is reached by a regular labyrinth. Here you rest for about five minutes, as Mr. Blank is busy just at present. At last he appears, looking most solemn and serious, for however much he may be full of fun outside the walls, an English business man must never smile between the hours of 9 A.M. and 6 P.M. Truly if an Englishman's house is his castle, his office is the citadel. It seems to me that it would not do him any hurt if he met Tom, Dick and Harry a good deal oftener and learned what the public wanted instead of trying to sell them what he thinks it should have.

I was much impressed with the average air of untidiness and neglect, not to speak of the antiquated fittings of the average London business man's office. His accommodation would simply be unletable in Chicago excepting to a poor class of tenants. I think I came across elevators only twice, and these were small, poky things traveling at the rate of a mile in a thousand years. By the way, they are called "lifts" in this part of the world, and this is claimed to be correct as you can lift a person either up or down, but you can elevate in only one direction.

While doing a growl about offices, I may say I found one run on the American plan, but it was an American company who owned it, the Vive Camera Company, and it was run by an American, Mr. Shedd. His door stands with the latch-string out, and there is a clear road from the door to his desk. The latter, by the way, was the only decent desk I saw in all my travels, in fact it was a beauty and was made in Chicago.

And right here I may as well make a confession. In starting from Chicago my better half and I had a conversation during which we discussed the differences between what we were leaving and what we were about to see. At length we agreed that the Americans were the more practical people, but the old country people could beat them in style. We take it all back, and humbly acknowledge that whether it is household fittings, office arrangements, dress or tools, the Britisher has much to learn.

My brother editors in London were kindness itself to me, especially Mr. Ward, with whom I passed the Sunday in his home, which is beautifully located in a charming outskirt of London. Mrs. Ward, who is better known to Americans as Miss Barnes, is still as enthusiastically fond of photography as ever, and is utilizing the art in a very practical way by making hundreds of negatives to illustrate a book which the two are writing on Dickens and his London haunts.

SALT CREEK, ILL.

So far I have said nothing of photography in my letters, as I wished to see as much as possible before expressing an opinion. I have now examined show cases very carefully in half a dozen of the big cities of this country, and with only one exception I have seen nothing that I would care to reproduce in THE PHOTO-BEACON. The average professional here has a great deal to learn, not only in lighting and posing, but in printing and toning. The average print is a sample of poor workmanship.

While in London I made arrangements that will, I think, interest the readers of THE PHOTO-BEACON, having contracted for articles on subjects that I know will be interesting to them. Then I secured the American copyrights of quite a series of books that will be highly appreciated by every one addicted to hobbies, and which, I think, will be better, because more practical, than anything of the kind that has ever appeared. The funny thing is that the vast majority of them are of American origin.

F. DUNDAS TODD.

August 30, 1899.

LITERARY COMPETITION No. 6.

"HOW YOU MADE THE BIGGEST PHOTOGRAPHIC MISTAKE OF YOUR LIFE AND ITS CONSEQUENCES."

Judging from the few contributors to this competition it would appear that very few readers of THE PHOTO BEACON have made mistakes.

Of the three prize-winners only the first two can come under the head of genuine mistakes, the others being about a series of mistakes rather than one which could be called the biggest mistake of a life. We have no sympathy to spare for the competitor who writes that the biggest mistake of his life was buying a camera on June 18, 1892, and its consequence up to date being $418.27, when we think of the fun he must have had for that amount in the given time. The prize-winners are:

First prize — Miss Lee L. Martin, 163 State street, Chicago.

Second prize — Marshall S. Walker, 398 Madison Avenue, Grand Rapids, Michigan.

Third prize —William Bullock, 390 Bond street, Cleveland, Ohio.

LITERARY COMPETITIONS.

No. 8.—How to build a studio in the back yard, suitable for an amateur. Give plans and state cost, if possible. Closes October 15.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas. Closes November 15.

No. 10. How to utilize photography as a hobby during the winter. Closes December 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to THE PHOTO-BEACON.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

HOW I MADE THE BIGGEST PHOTOGRAPHIC MISTAKE OF MY LIFE.

FIRST PRIZE ARTICLE.

Having read your various competitions as given in the August number of THE PHOTO-BEACON, I will endeavor to tell you in as few words as possible the biggest mistake I ever made in photography. I am not an expert or professional by any means, now, but must say I know a little more than I did at the time of my misfortune.

I received a Crescent camera as a premium. My first picture was to be a view of the parlor. I took considerable pains in arranging things, and about a half hour from the time I started my picture had been taken. Allow me to say that before the picture was taken I had examined the camera and satisfied myself that it was ready for an exposure.

I set about fixing up a darkroom, and at last was ready to develop the plate. I took out the plateholder, removed what I thought was the plate, and put it in the developing tray. I had procured a copy of Todd's "First Step in Photography" and was endeavoring to follow his advice and instructions regarding the time the plate was supposed to be left in the developer, but for some reason or other the image, or rather objects, would not appear. All was very black. I took out my plate, washed it, and transferred it to the hypo, then went out into the adjoining room to see what my picture was, but much to my disappointment I could see nothing. I gave up taking pictures that day, and was very discouraged, for I had taken particular pains with the focusing, and in fact had spent two hours to no avail. About a week after I again attempted to take a picture, and after looking at the camera a little more intelligently I noticed, much to my horror, that I had exposed, developed, washed and given a hypo bath to one of the slides which were supposed to protect the plate, while the latter was securely pinned back of the slide.

You may apply this to ignorance rather than to a mistake, but I assure you it was a genuine mistake on my part.

MISS LEE L. MARTIN,
163 State street, Chicago.

THE GENERAL ARISTO COMPANY.

The announcements of the Associated Press throughout the country relative to the organization of this great consolidation of paper interests undoubtedly surprised many of the thousands of American Aristo consumers, and has led a large percentage to wonder what the outcome is to be and how it is to affect their personal interest.

Visions of increased prices, arbitrary terms, and indifference to the quality of the goods which always accompany the popular idea of trusts and combinations have undoubtedly ran riot through the minds of more than one. All such visions will soon be dissipated upon a proper understanding of the facts.

In the first place, the General Aristo Company is not a trust in any sense of the word. It is a company formed which purchases outright the paper business of the Eastman Kodak Company, the American Aristotype Company, the Nepera Chemical Company, the New Jersey Aristotype Company, the Photo Materials Company, and the Kirklands Lithium Company. It is an absolute consolidation under one company and one capitalization. It is not a combination of interests of several individual concerns handled by promoters who do not understand the business and have no interest at stake except the profit of stock manipulation, but a company which pays down good money for these various companies and has as much at stake in the proper care of their consumers and in the reputation of their goods as any one of the individual concerns had previous to the consolidation.

Negative by E. L. Powell, Chicago.

A HAZY DREAM IN SUMMERTIME.

As far as monopoly is concerned, no consolidation could have a greater one than the American Aristotype Company has had during the past ten years. This monopoly was not secured through letters patent, or trade combinations in restraint of trade, or any cinch of any kind. It was secured through the fact of its giving a product of merit at a price that could not be undersold, together with a liberal policy in handling consumers and trade which could not be excelled. It is not flattery, but a fact which the photographic fraternity would cheerfully testify to, that no concern ever existed which gave better value for the money or has expended more for the education and entertainment of the fraternity than the American Aristotype Company. When monopolies come from such conditions they are welcome to the consumers, for the consumers themselves gladly create them. The General Aristo Company propose to secure their business on equal merit, and the American Aristotype Company becomes part of the General Aristo Company.

There will be no increase of price, and the company will not permit any competitor to undersell them, quality considered. The General Aristo Company will control for North America the raw paper products of the Rives and Steinbach mills of France and Germany; aside from this their power of purchasing other materials will be greatly enhanced, which will enable them to give better goods and better service for the money than any other photographic concern on either hemisphere.

So far as the American Aristotype Company's plant at Jamestown is concerned, there will be no change which can possibly affect the quality of goods. Mr. R. C. Sheldon, who has been the managing superintendent of the works for the past ten years, will continue in the same capacity, together with his trusted employes, and Mr. Charles S. Abbott, as secretary of the new organization, will also continue to make his headquarters at Jamestown. Similar precautions to preserve the merit of the goods in all other plants of the General Aristo Company will be equally as well safeguarded. Therefore, consumers will have everything to gain and nothing to lose by the organization of the General Aristo Company.

COLORS ON VELOX.

It is a matter for congratulation that photographers are recognizing the advantage of suiting, as far as possible, the colors of their print to the subject. The following formulæ, given by Mr. W. E. Henry, in *Photography*, for the production of red, purple and brown, which are applicable to Velox, may be of value. We have, therefore, pleasure in presenting same. Prepare three solutions, as follows:

A.

Hydroquinone	6.5 gm.	or	100 grains
Sodium sulphite	31.1 "	"	480 "
Citric acid	1.6 "	"	25 "
Potassium bromide	1.3 "	"	20 "
Water, to	567.0 c.c.	"	20 ounces

B.

Sodium hydrate	5.85 gm.	or	90 grains
Water, to	567.0 c.c.	"	20 ounces

C.

Ammonium bromide	7.8 gm.	or	120 grains
Ammonium carbonate	7.8 "	"	120 "
Water, to	283.5 c.c.	"	10 ounces

For Red Tones.— Expose to 8-inch magnesium ribbon at a distance of four inches, and develop with — A, 1 ounce; B, 1 ounce; C, 6 drams. Develop so as to allow for considerable reduction in fixing.

For Purple Tones.— Expose to 4 inches of ribbon at four inches, and develop with 1 ounce each A and B, with 120 minims of C.

For Brown Tones.— Expose at the same distance with 3 inches of ribbon, and develop with 1 ounce each A and B, and 60 minims of C.

The tone can, if required, be modified by after-treatment in a gold and sulphocyanide bath.— *The Australian Photographic Journal.*

I have missed THE PHOTO-BEACON more than I can tell since I dropped it a year ago. I did not realize it was such a help and I have lost a year's instruction and pleasant reading.

JOHN JACKMAN,
Patten, Maine.

THE SQUEEGEED PRINT.

THIRD PRIZE ARTICLE.

In imparting a gloss to my prints, I use a ferrotype plate in preference to glass, as it is cheaper, more convenient, and not liable to breakage. Each time the plate is used it must be thoroughly cleaned by rubbing it with a soft cloth or cotton batting saturated with alcohol; in lieu of alcohol, hot water will do. Rub the plate dry, and sprinkle over it a little French chalk, and polish with a chamois skin or piece of absorbent cotton. Use a camel's-hair brush to remove particles of dust. I have used for polishing the plate, a solution composed of benzine 1 ounce, paraffin 10 grains, with fair success, but without the French chalk the prints would sometimes stick.

The prints to be polished should have been fixed in a bath in which there was a hardener, like alum, to harden the film.

The prints must first be soaked in a tray of clean water. To remove the surplus water, place the prints under slight pressure, between two pieces of blotting paper, but first place over face of prints a piece of tissue paper to prevent any lint from the blotting paper adhering to them. Now squeegee the prints to the ferrotype plate, which must have the highest gloss possible. The prints must be in perfect contact to produce a uniform glossy surface. The best way to place the print on the plate to avoid airbells is to take hold of one end of print, place the other end on the plate, and then roll it down lightly with an ordinary print roller. A piece of cloth placed between the print and the roller will lessen the chances of tearing the print. Lay aside to dry in a fairly cool place; do not allow the sun to shine on it, and when bone dry, strip from the plate. If the plate has been well cleaned and polished, the prints will often leave the support of themselves.

Negative by E. L. Powell, Chicago.

A NOOK WHERE FLY-BEGOADED CATTLE REST.

The next thing after the print has been trimmed, is to mount it. As the surface is now very sensitive to damp, it will not do to cover the entire back with paste, as it will injure the gloss; so I merely smear paste around the edge, covering a strip about a quarter of an inch wide. A piece of paper cut about a quarter of an inch smaller all around than the print, and held on the back, will aid in putting the paste on evenly. But before putting the paste on the print I slightly moisten the *back of the mount* I have selected, which causes it to curl inwardly a little. Now place the print on the center of the mount (two dots placed where two corners of the print are to go will aid in laying it in the center), and roll down with a print roller, first protecting the print with a piece of paper. As the mount dries it will straighten out and stretch the print tight and flat on the mount. You will need a thin, smooth paste, one that dries rapidly, and if the job has been well done, you will be hardly able to detect the space around the edges where the paste has been put. In this way I have successfully mounted prints up to 5 by 7.

L. A. Olsen,
555 East Seventh South Street,
Salt Lake City, Utah.

CURIOUS STORY.

A recent issue of the *Daily Mail* contained a humorous account of a curious adventure which lately befell a party of amateur photographers at Barmouth. They went out fishing and returned with an abnormal catch of bass, a circumstance which excited considerable comment and suspicion. The rest of the tale is best told in the *Daily Mail's* own words: "A day or two later the climax was reached. The three mysterious visitors went out for a sail, taking their cameras with them, and on their return they found 'Hawkshaw,' an elderly gentleman, waiting for them, who, immediately they stepped on shore, demanded to search the boat and tackle. Mr. Charles Bassano absolutely refused to allow him, whereupon 'Hawkshaw' produced a certificate, showing that he held the post of inspector or some similar office. 'Right you are,' said the trio, and forthwith they proceeded to get the cameras out of their cases. But the crafty 'Hawkshaw' was not to be deceived he must see the inside there and then of these boxes. Mr. Bassano to this retorted that if 'Hawkshaw' dared to open the cameras, except in a darkroom, he would sue him for damages. This resulted in the whole party — the Messrs. Bassano, 'Hawkshaw' and a policeman — marching into a darkroom. Mr. Fred Bassano's camera was opened first, and 'Hawkshaw' was at length convinced that it was a camera. The case, however, assumed a serious aspect when it came to an examination of Mr. Chas. Bassano's camera, for 'Hawkshaw' came upon a loose spiral spring which holds the films down. 'Ha!' he exclaimed, 'this is quite different! Now we have got something important.' It cost the photographer, to whom the darkroom belonged, a lot of trouble to convince the old gentleman that this camera was not some lethal engine for killing fish. When he had accomplished this feat the photographer wanted payment for his time and the use of his room. 'Hawkshaw' at once declared that the Messrs. Bassano must do that, and in this exposition of the law he was backed up by the policeman. Now the talk of the group of fishermen on the quay turns on the big law case that may go to 'coorts in Lunnon' and which will settle the great question, 'Who pays the photographer?'"—*British Journal of Photography.*

LIGHTING.

Every one knows to some extent the importance of the lighting of the subject in photography, though but few realize its great importance. It is a sound maxim that at least one part of the picture should be as perfectly lighted as possible, even if other parts have to suffer in consequence. The more the light is in front of the spectator the greater the relief, but at the same time this is often at the expense of detail and gradation.

Negative by Walter J. Snyder, Detroit.

SECOND PRIZE.

RED SPOTS.

Red spots on paper can come from a number of causes. The most common forms are finger-marks, bubbles and preservative chemicals still in the paper. When from finger-marks they can be easily recognized.

When the spots are round or oblong and have defined edges, they are from bubbles and can be avoided by sliding prints in the first water and knocking them off. If the red spots are uneven and scattered over the paper, or if the prints act like they were greasy in the washing water, the trouble comes from oil or grease, which may come from the hands, trays or water.

This trouble can be overcome in both Platinum and Junior paper by adding two ounces saturated solution sal soda to each gallon of water, the first water prints are placed in, handling prints over in this water for five minutes.—*Photographic Recorder*.

The Photo-Beacon Exposure Tables are guaranteed correct for all out-of-door conditions. Price, 25 cents.

WHAT IS TECHNICAL EXCELLENCE?

NO. II.

If it be granted that this group of general characters, features or qualities are in the main the essentials of what is called technical excellence, we may profitably ask the question, "Are they uniformly, invariably essential, for—let us say—pictorial efforts?" The answer may take at least a threefold form. First: On the grounds of personal taste. Undoubtedly every one is free to select and use his own methods of work, or, as the common saying has it, "A man may like what he likes." But to carry conviction, one looks for something more than the bare expression of personal opinion.

Secondly, we may examine the question in the light of general principles. It will hardly be denied that excellence is a term of relationship to conditions. The excellence of an instrument is measured by its degree of success in performing the functions for which it is essentially constructed. To pierce a hole a finely pointed instrument is chosen; to punch a hole a blunt one is used. Exchange their applications, and their excellence is greatly reduced. Again, excellence is measured by the cost of production, in energy, time, material. Other things being equal, the best machine or craftsman is the one who produces the desired result with least expenditure of time, work, or material. Hence the deduction, "waste is the enemy of worth." Waste (or needless employment) of energy, time, or material is indicative of imperfection of method or design. The man who with one blow of his hammer can produce a satisfactory result is a better craftsman than he who needs two blows to produce the same result. The draftsman who in like manner tells us all he wants to say with one stroke of his pencil is a better technician than he who needs two strokes to arrive at the same result. In brief, it is generally held that two main principles underlie all arts and crafts, viz: the best *means* to give a desired result is that which yields the best result, and the best method is that which is most economical.

Thirdly, we may consider the question in the light of example, taking the practice of those whom mankind in general regard as the masters of their several arts and crafts. Here we find the manner almost as various as the subject or the artist. For example, as regards detail, or degree of focus, as the photographer often puts it, what could be more different than the work of Canaletto and Turner when dealing with the architecture of Venice? Or, again, what can be more different than the portraits by Gerard Dou and Rembrandt; and yet the former was a pupil of the latter, and they worked side by side in the same studio. The former we might call a rapid rectilinear *f* 64 man, the other a spectacle-lens man. Yet the world acknowledges both as masters. With regard to the class of subject where the differentiation of different planes is an essential feature, we may quote at random Constable, Gainsborough, Hobbema, Ruysdael, Willem Vandervelde, Turner, Cuyp, and a score others. But in each case the man had his own characteristic and individual way of getting relief and distance.

Then, as regards the art of omission, the one thing which most photographers find the hardest lesson of them all to learn. All we need do is just to compare two or three works of any master we please, taking him from the beginning, the middle, and toward the end of his time, and see how, as he gained experience and strength, he gained the knowledge of learning to "leave out"—to concentrate, to simplify, to subordinate. It is by charactistics such as these that experts are able to assign—usually with a remarkable degree of accuracy—the period of a newly found work. The long series of Turner works in the National Gallery is particularly instructive from this standpoint.

Negative by E. L. Powell, Chicago.

SUNLIGHT AND SHADOW.

Lastly, as regards the photographer's ideal of a long and even scale of tones, it is surely enough to ask the intelligent reader to compare the works of Turner with those of Rembrandt. In the former we see all the force of his wonderful skill and power concentrated in differentiating the light end of the scale. On the other hand, Rembrandt concentrated the power of his genius in exactly the opposite direction, i.e., the dark end of the scale. Possibly to the casual observer his shadows and deeps are flat, black, and devoid of interest, but to the patient student the case is exactly the reverse. The glib technical-excellence man, without a moment's hesitation, would say the followers of Turner over-expose their negatives, and get flat, washed-out things, while the disciples of Rembrandt "hopelessly under-expose, over-develop, and print only soot and whitewash."

Set standards, copybook head-lines, hard and fast rules are all right and proper for the childhood age. But when we are no longer children, it is seemly to put away childish things.

In the good old days of wet collodion, when the details of manipulations were, comparatively speaking, so serious, numerous, and exacting, so that little mental energy was left over and to spare for the pictorial side of the question, no doubt these maxims—these conditions and qualities of the ideal—a technically perfect negative or print—were serving a valuable educational purpose. But "*tempora mutantur, nos et mutamur in illis*," we seldom now travel by the old slow coach where trains are possible, the copperplate-like writing of our grandfathers is nearly extinct, and the worshipers of the collodion fetish are year by year dying out. The younger generation are learning to think merit goes by result, not method; and the end (in art) justifies the means.—Rev. F. C. Lambert, M. A. in *The Amateur Photographer*.

From the New Lexicon.—Soft negatives—Plank beds. Hard line—General ironmongery. Silver reduction—Remembering the waiter. Half-tone process—Whispering in church. Plate-changing device—A pretty waitress. Development after fixing—The honeymoon.

"Amateur Portraiture at Home." Just the book for beginners. Price, 50 cents.

Negative by Geo. A. Webster, Chicago.

THIRD PRIZE.

THE KNOWLEDGE OF GOOD AND EVIL.

If the attainment of such knowledge and the application of it brought about man's primeval fall, it is none the less essential to the salvation of the artist, and even that variety of the species who, by choice or lack of an alternative ability, employs as his means of expression those methods and materials which are already condemned in the general estimation by the comprehensive term photographic.

The instinctive sense, or acquired knowledge, which enables one to say this is good and that is bad is, in photographic practice, quite as essential as the power to wield one's tools or the faculty of selecting a subject or posing a figure.

That precious gift of knowing a good thing when we have got it, and the self-control which enables us to banish or destroy that which we feel or positively know to be bad, even though we have an affection for it, these are among the rarest and insufficiently esteemed qualities.

We seem to have written somewhat on this subject before, but its importance may justify reiteration, and a truth that is good and profitable, like a scene in nature, has various aspects and seems capable of variation according to the temper under which it is expressed.

The subject and the thoughts it gives rise to are fresh with us by reason of a recent conversation which we had with a distinguished photographer who probably displays as much or more true artistic perception in his work than most of his contemporaries, but talks about it less than any one.

Now, mark you this: real art knowledge and artistic ability in a man is more clearly revealed by the *absence of poor or bad work* than by the production of an occasional masterpiece among a number of examples of average merit; just as one shall speak in commendation of an exhibition which has no works of small merit far more than a roomful of pictures of average quality, though there be included two or three of unsurpassed and unrivaled excellence.

Nor by his masterpieces and his occasional high attainment so much as by his *absence of failures* should a man's real worth be gauged. Not that the most accomplished artist is to be supposed innocent of failures, but the great man knows them to be failures, and whether from prudence, self-respect or instinctive desire to preserve only the good, relegates them to those unseen recesses where they form stepping-stones for higher ascending, monitors for future progress, but for himself alone.

May it be hoped that these suggestions, if productive of no other good, may prompt some to less impulsive exhibiting of imperfect efforts, feeble attainments, and bad work, and to more forethought, critical examination and self-restraint.

To give a more practical turn to these precepts, let me remind my readers that it is hard for the artist—I will call him artist, by your leave, though I am speaking more especially of the photographer!—I say it is a slow process for the artist to live down the effect of his publicly exhibited failures and to survive the bad influence produced by bad work which should never have passed from his own hands.

Negative by E. L. Powell, Chicago.

FISHERMEN'S HAUNT.

Give a dog a bad name and you may as well hang him. The released convict, though his hair grow again and he become a reformed character, rarely, even by the most benevolent actions, overcomes the prejudice of his fellows, though in such case prejudice is probably to blame. Let me instance rather the abandoned ruffian and the incorrigible evil-doer who yet on occasion does an almost sublime action of pure philanthropy; we feel no confidence in his goodness, and instinctively take his average.

So supposing an artist — shall we ever find a name of which the photographer-artist can claim the monopoly?— exhibit four or five works of which one possesses transcendent beauty, but the others are little above the average; we say, "This one is a gem; but apparently it is mere chance, for if he knew its excellence, or if its good quality were really the outcome of high endeavor, he would hardly have sent these others to bear it company; he spoils himself by these." We unconsciously take his average. We may readily give him full credit for one good production, but— And then we also give him due credit for the others! Of course I must assume agreement with me that the only true criticism consists in passing judgment according to whether a man succeeds or fails in approaching nearly to the aim he has in view; the worthiness of that ideal, aim and intention is another matter, and never must we praise or blame the artist because his works please or displease our individual tastes.

And so we must be careful lest our condemnation be merely because we fail to understand his motive or are too impatient to seek for it. Let us never be unmindful of the fact that what appears to be meaningless and ineffective may be a great deal nearer to the realization of a precious ideal than that which seems a fine and perfected work, because we have not sought for or are incapable of understanding the ideal toward which the man is striving. The hard and uninviting shell of the nut on one branch is, after all, nearer the kernel than the attractive blossom on another, but the kernel is hidden. And with this caution against hasty condemnation it may be profitable to return to consider the man who prejudices his chances of acceptance by his want of self-restraint, a remark which may unfortunately lead to the supposition that public acceptance or appreciation is the highest guerdon — which it is not.

How many exhibitors spoil themselves by too much sending, by contributing six, eight or a dozen works, all sufficiently good to secure a hanging, but who would be more worthily represented by two or three out of the set; and how many will send this year for the first time, and send average work, who by waiting a little longer might upon their *début* achieve immediate distinction! It is but three years ago that one who is a leader among leaders was first induced to exhibit in London at the Salon, and was at once proclaimed a master, a position he has since easily maintained; he has had no early failures to outlive, no first beginnings to efface — enviable position shared by few.

Some love for publicity — a veritable passion with many — is but natural in most, and so the beginnner whose perceptions are not sufficiently cultivated to judge dispassionately of the merit of his own productions is proud of his first near approaches to success, and impetuously sends them into public exhibition, only to blame himself for rashness, or to go away disheartened, when a few weeks later he sees them in contrast with the works of others, or feeling keen regret that he did not send less, in which case he might not, perhaps, have earned more praise, but that praise would have been tempered with less reproach.

Actual and well-formed knowledge of good and evil is the more essential because our photographic means make the production of tolerable results somewhat easy, and to submit a number of such to a more experienced friend for selection is not an honest procedure, though instructive to oneself; but if the knowledge of what is really fine, as shown by what we exhibit, is a true indication of our artistic status, then obviously our friendly guide and not ourselves must take the credit, and to send in a number from which the selection committee may do the weeding out is but to shift the responsibility, and the laurels are due the committee's judgment, while it should be remembered that the selection of committees is not irreproachable, and some of our works may be admitted which, in the judgment of other really competent persons, may do us more harm than good.

The moral of all this is that we must do our own selecting, and be quite sure that what we send in is really good and not depreciated by accompanying pictures of indifferent quality.

And how is such an analytical faculty to be obtained? How can those not especially gifted with knowledge and discriminating powers determine what is good? How in the absence of special knowledge can one do otherwise than act on the guidance of the more experienced, a course which I have just stigmatized as dishonest?

I can only say, be quite sure in the first place that your picture is just what you intended it should be, or at least comes near to fulfilling your intention. This is perhaps the first element of goodness in a work of art. We may then ask ourselves whether the intention was a worthy one, and whether it was prompted by a lofty idea. Among the intentions and ideals which I should suggest as *unworthy* are the imitation of another man's style, the exact imitation or copying of the mere facts in nature, the display of one's own skill in manipulation, the exhibition of the perfections or rare qualities of the apparatus or materials employed, the careful recording of some matters of intellectual interest, eccentricity for the sake of notoriety, attractiveness for public applause.

Rarely, if ever, is there a general exhibition of photography without examples in which there is more than a suspicion that such motives as these have exercised their power.

So I say, let us be sure that our motive is good, and that we have approached nearly to our intention, and that may be as far as we can go by ourselves. We may then, if lacking self-reliance, call in another's help, explaining to our friend our intention, and only acting upon his advice when *we quite understand* his reason for condemning or accepting. If we know his reason and fully understand it, we are educating ourselves, and may then justly exhibit on the strength of the knowledge thus acquired, though it were better had that knowledge been acquired in time to admit of our putting it to fresh practical test.

GRANDPA'S DARLING.

With regard to our finished pictures, or even when we are merely choosing our subject, the repression of our personal affections will powerfully help toward the exercise of our faculty for judging good from evil.

A picture which contains a reminder of some difficulty overcome, some point which interests or amuses us personally, either for its own sake or for something it suggests, is likely to so attach itself to our affection that we are blind to its true merit.

One shows us a finished print and points out some particular excellence or explains some detail or some feature, and forthwith expatiates upon the beauty of the scene, the difficulty encountered in photographing it, or what not, and you know at once that he has an affection for that print, quite irrespective of whether it is pictorially good or bad. Nor must he be surprised that others not having the same especial interest do not reckon the work so good as he himself.

Thus were we shown recently a photograph of a soldier in uniform leaning against a tree in a rather ordinary suburban garden. Undeniably it was a well-produced photograph of the particular subject. "Ah," said its producer, "that's young So-and-so just before he went away, poor chap!" Not knowing young So-and-so, how could I share my friend's evident interest in that print?—an interest so great that it blinded him to the fact that the expression on the soldier's face was not one which one would think his relations would care to perpetuate, and the background and arrangement of the surroundings were most irritating. Or a better example would be a pleasing landscape subject in which we remark that though there are faults and mistakes, yet the printing-in of the clouds is very nice. Whereupon our friend explains how long he waited to secure those clouds, and what extraordinary difficulty he had in printing them in. Then we know it as a record of achievement and in the vanquishing of obstacles that its chief value lies. Once more we have the man who essays to produce a given effect in a less amenable yet otherwise desirable process, and having attained a great measure of success, he is proud of his accomplishment, and seems to forget that others not sympathizing with his endeavor to subjugate new and difficult methods can not be expected to take the same interest in his process, and so fails to attach much importance or value to the whole.

Thus might we continue to multiply examples in which a particular and individual liking may blind one to the just valuation of a work as a whole.

And now the moral of all this writing is twofold. First I want, in view of coming great exhibitions, to caution my readers against striving after mere numerical strength. I want them to exercise self-restraint, and send in only what is really fine, nor lower their average by sending with it other works of mediocre value; and secondly, I am preaching self-restraint in the production of one's picture. Do not let us be led to accentuate some high light, because "a bit of bright light is so refreshing," nor introduce a figure nor include a group of foreground foliage, either because we "like a little life in a picture," or because we are "always fond of a good foreground." These matters of personal likes and dislikes should be well repressed, and their inclusion severely controlled by a knowledge of the good and evil.— *The Amateur Photographer.*

A. Horsley Hinton.

FIGURES IN LANDSCAPE.

Every photographer knows too well the woodenness of pose which the truly rural subject assumes when induced to form part of a picture. The profusion of landscape photographs without figures is no doubt in some part due to this inaptitude of the inhabitants of the fields; for those photographers are comparatively few who can command the services of trained models.

A hint in regard to getting a natural pose came from the versatile pen of the Rev. F. C. Lambert a year or two ago, and is worth repeating. You get your figure into position, pretend to make the exposure — several seconds — and signify to the model that the deed is done. After the strain of keeping still, the model relaxes his or her muscles, and in all probability falls into a natural and easy position. Now you seize upon the moment to make a short exposure, preferably with a pneumatic shutter.

LANDSCAPE AND CLOUDS.

A striking sky, taken on separate plate from the landscape below it, is not always so striking in the print; for the cloud-forms, by reason of their brightness, seem bigger than they really are. By using a longer focus lens for the clouds — say, one component of the R.R. which is used for the landscape — the effect of this optical illusion may be in some measure simulated in the photograph.

UNDER THE SKYLIGHT.

PORTRAITURE.

It is now some years since I had the pleasure of speaking to the members of this society*, and I am glad to have the opportunity afforded me by the courtesy of your president of expressing my satisfaction at the wonderful strides which it has made during the interval. This rapid development is doubtless due in a large measure to the exertions of the carefully selected office-bearers, who through the disinterested fulfilment of their various duties, from the president downward, have so successfully imbued the society with the sense of vigor and prosperity which it now enjoys.

Passing on to the influence of outside elements, there is no doubt that much impetus has been afforded by the introduction of so much amateur talent, and these members, we are all aware, have usually much more time, and also money, at their disposal than their professional brethren. In fact, of recent years even the most casual observer can not fail to be struck with the fact that the professional members only represent a very small faction of the membership. With the stupendous army of workers which it now boasts it is hardly astonishing to find that the work of the society has extended out in octopus fashion, embracing all the different branches of the photographic art.

The subject which I deem it my privilege to bring before you tonight is a well-worn one; but as two people seldom entertain identical ideas on one subject, I may perhaps be able to give some details which my experience in portraiture has enabled me to acquire. Edinburgh has, from the very earliest days of photography, held a prominent position with regard to portraiture, and I need only here mention the well-known name of D. O. Hill, many of whose admirable works can be held up as examples to the present day. In fact, if we come to study the question, I doubt if our up-to-date professional photographer would find that he had made progress adequate in proportion to the facilities which are placed at his disposal. Take, for instance, the infinite variety of textures available in paper, and the wonderful improvement which art and ingenuity have invented in the methods of printing and in the science of optics, and last, but not least, in the marvelously increased speed of the sensitive film. My verdict is, we have not. I can recall some of the meetings of our brethren in the seventies, when all our energies were directed toward the obviating of streaks, oyster-shell markings, and pinholes resulting from the silver bath; and when we take into consideration that the present photographic generation has been relieved of this, and numerous other difficulties, for the past fifteen or twenty years, it seems that a corresponding amount of study has not been accorded to the art side of photography.

Portraiture, you will grant, is by far the most difficult branch of our art. Take any other object as a subject for the camera, and with sufficient technical knowledge the obstacles are by no means insurmountable; but what else in creation can compare with the human countenance for mutability and variety of change? Health, temper, frame of mind or dress are but a few of the contending difficulties which meet the professional photographer, for to combine a pleasing portrait with a true likeness must be our end and aim. As our subjects are seldom perfect, it is necessary to keep constantly before our mental vision a distinctly ideal form, so that when deformity presents itself, or even a slight deviation from our idea of perfection in the human form divine, we may be able to discreetly modify the defect by the various means at our disposal, without entirely obliterating any point which may tend to spoil the individuality of our sitter, and so attempt a deceit which is a distinct violation of the rules of true portraiture.

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* The Edinburgh Photographic Society.

I think that most of us are cognizant how very unmerciful photography at times is apt to be; but if we can only bring our artistic knowledge to bear upon the difficulty, it is often more easily solved than we should imagine.

Shall we look for a few moments at the different points of the face, remarking, first of all, on the mouth.

This is perhaps the feature, and especially in ladies, which requires the most careful observation, and on no account should the mind of the subject be influenced to the consideration of it, or a total destruction of the natural lines will probably be the result. Much may be learned from a cursory conversation with a sitter, during which an opportunity is gained of observing the delineation of the mouth when in animation or repose. In many instances the youthful female mouth may be treated with the lips apart, but in this case a full illumination of the opening is necessary, as the tendency in photography is to obtain too dense a shadow, thereby destroying the delicate transparency that we admire in nature. Children's mouths are a fascinating study, with their beautiful, soft, mobile lines, full of a sweetness and repose seldom or ever to be found out of childhood. Unfortunately for photographers, however, this ideal expression is not the one most generally appreciated by the loving mother or auntie who may accompany the juvenile sitter, and a grin which distorts the bow-like mouth into a grimace extending from ear to ear is more likely to meet with their favor. With advancing years the susceptibility of the mouth to change is more apparent than in any other feature. The development of characteristics, the results of certain habits, the circumstances of joy or sorrow, all tend to leave an indelible mark upon this most tell-tale feature, leaving compression of lips, and destroying with lines and twists the delicate mobility of youth. All this calls for our careful consideration in portraiture, and demands our utmost skill in dealing with it. For instance, a twist may often be modified by a judicious pose of the head, and I shall make a reference later on to the treatment of lines.

And now to pass on to the most attractive feature of the human visage, which is indisputably the eye.

Again I must revert to the child. Here we find the eye abnormally large, a fact accounted for by the growth of that organ not being in accordance with the other features. Both in children and adults this charming feature cannot receive too much attention, for here you have to deal with the "windows of the soul." All our most interesting subjects have fine eyes. While on this subject it is useful to remember that a certain latitude is allowed in the higher art of painting with regard to the size of the eye. But this is not a concession that we can apply to the photographic art. There are, however, certain conditions in our practice which tend to an opposite result, unless we are on our guard, among which I may mention the indiscriminate use of light as being the most guilty factor, and it should always be borne in mind that too much light has the effect of dwarfing the eye. Stray lights are also detrimental, and are frequently caused by the mischievous use of white reflectors placed in too close proximity to the sitter. The seat of sweet feminine character is in the outer corner of the eye, and more particularly on the lower lid. Our greatest portrait painters fully recognize the importance of this most telling feature, for when receiving or parting with their subjects the eye was always the first and last to attract their attention.

We have now dealt with the two leading points of the face wherein mainly rests the expression, and the treatment of the other features, viz, the nose, chin and ears, must depend on the judicious point of vantage which can only be selected by the photographer after a study of the contour of his sitter's head. The ugliness of a face may be decidedly modified by choosing either full, three-quarter or side view, and the calling into requisition of the charm of light and the mystery of shadow, remembering that the naked truth is deceitful.

Comparisons are proverbially odious, and in comparing the works of the portrait painters with those of the photographer it has been remarked that the latter only gave "the soot of the flames" (the subject of the criticism was perhaps printed in carbon), the reference being made to the extreme difficulty of securing an intelligent expression by photographic means. We are, however, consoled by the thought that the painter has many advantages which are denied to the photographer; and if the painter be endowed with mind he has ample opportunity of calling forth the mind of his model, while a machine can not evoke a soul. This is supposed by many to be the true relationship of photography to art so far as portraiture is concerned, and so we must be content to worship afar off, and if we can not evoke souls it is still permitted to us to exercise the little mind we may have at our disposal toward the consideration of the other portions which go toward making a complete picture, and will therefore now consider the background.

Negative by E. L. Powell, Chicago.

CHILDHOOD JOYS.

With regard to this subject, as showing the importance of the background with relation to the figure, Rubens is reported to have said to the person who recommended to him his son as a pupil sufficiently advanced to be competent to paint his backgrounds, "If he can do that, my friend, he stands in no need of my instruction."

The late Mr. Gleeson White, editor of the *Studio* magazine, wrote an article, which appeared some time ago in the *Photogram*, taking as his subject, "The Use of Dark Backgrounds in Photography," and I am proud to say he honored me by selecting some of my studio work to illustrate his ideas.

But to return to the practical view taken by the majority of our portrait workers of this all-important subject, it would seem that it is the one point which receives the least attention of any, and I feel sure that if it were to receive the careful study due to it that portraiture would advance by leaps and bounds, and we should no more have our eyes offended by the incongruous productions which meet our view in the various shop windows.

A young English photographer waited upon me in my studio some time ago, and apologized for troubling me, trusting I should have no objection to him taking a look around. In the course of conversation I asked him if he had any specimens of his work with him, whereupon he produced a packet of cabinet portraits for my inspection. The weak points in them were immediately apparent, all the pictures being taken with a background of an equal gray tint, against which all the ugly lines of the figure were shown up to perfection. I returned his packet of photographs in discreet silence, but in answer to his earnest solicitation for my opinion on them, I conducted him to my front window, and pointed to a building at the foot of the Mound where he could spend an hour with great advantage, recommending him at the same time not to trouble as to the light, or treatment of the heads, but simply to study the manner in which the figures rested against the background. I had not the pleasure of another visit from that gentleman, but I heard indirectly of his safe arrival home, with his ardor slightly damped. Velasquez, Vandyke, Reynolds and Raeburn afford the intelligent student ample opportunity of studying what is most desirable to achieve; at the same time, I regret to say that we labor at an art which has its limits.

STEPPING-STONES.

From a photographic point of view, difficulties often present themselves which seem well-nigh insurmountable, for figures often require adjustment to a certain background, which we have neither the power nor time at our disposal to paint according to our idea, and the effect which we have in view must therefore be accomplished in some other way. This may be done by placing our background at different angles to the light, and shading certain portions of the figure. For example, if the outline on the shadow side of the head will not bear emphasis, the tone of the background at that particular part must be equal in depth to the shadow, so that the two blend. This leading principle applies to the whole marginal line of the figure, and it thus follows that we must have a clear conception of which points in a subject to emphasize and which to subdue. This also accounts for the reason why so many eminent portrait painters finish the heads of their models before proceeding with the background, or even deciding on the ultimate arrangement for the pose of the figure, so that in commercial portraiture it is almost impracticable to secure always an absolutely harmonious effect.

The attire of the subject is one of the most important items when considering the background.

If the drapery is graceful and becoming, it will bear greater boldness of treatment, and may with advantage be allowed a place in the picture second to the head.

But one of the photographer's most serious barriers in the way of artistic effect is the constant contending with ugly fashions, the sleeve not infrequently proving a most troublesome point, its shape and size influencing in a large degree the scale of the head. The large, full sleeve, which, I regret to say, has just become a thing of the past, was, in my opinion, admirably adapted for the square bust portrait, although it certainly had the disadvantage of emphasizing the defects in short, stout figures when full-length pictures were required. The present style of sleeve calls for special treatment, and only in exceptional cases is becoming. The arm usually emerges from a tuft of satin, or other stiff material, about the size of a breakfast roll, and in bust portraits the short piece of arm which appears between the fullness of the sleeve and the lower margin of the picture seldom looks well.

But these and other vagaries of fashion are good tests for the photographer's powers of composition.

Children make delightful pictures, their simplicity and serene unconsciousness being qualities which lend themselves readily to the painter's brush, or the less pretentious camera, but to do them justice in either painting or photography needs a special study and love of infantine life. Reynolds was a great lover of children, otherwise our eyes could never have feasted on such art-treasures as Lady Smith and her children, and many others.

His child models were, however, invariably well dressed, and here again, as in adults, the photographer is met with a blank wall of opposition. A new stiff or starched dress is a garment usually brought into requisition for the important occasion, when an old, soiled or flimsy frock would doubtless have been the very thing, could the unhappy photographer have made his own selection. In the case of very young children, the neck and shoulders should always appear, although there is a danger of making the head abnormally large, unless discrimination is used in allowing the dress to fall below the shoulders, thereby giving the appearance of greater width.

If the usual short frock is used, nothing is prettier for a child than a full-length figure standing alone, especially if taken from a low elevation, which gives the little subject dignity, and shows to advantage the limbs, which are always interesting; but this is doubtless the most difficult portrait to secure with any amount of success. The charm of our daily work with children is the constant anticipation of what may next reveal itself.

I will conclude with a few words as to the practice of retouching. As in landscape work, so in portraiture, we get too much detail; but while not for one moment losing sight of the fact that all the predominant darks in the face are conducive to likeness, yet the excessive details which make their appearance on the intervening spaces can bear modification, as such detail is only troublesome to the eye and not of service as regards the likeness, but when the retoucher directs his energies to the wholesale removal of the darks, then the likeness at once begins to suffer. You remember my reference to seat of sweetness in the female eye, and if the fullness under it is removed, with it goes all the poetry.

WILLIAM CROOKE.

SOFTENING DEFINITION.

For modifying the definition given by a sharp negative, one or more celluloid films may be placed between the negative and the paper; sheet gelatin answers even better. A piece of muslin or cambric in the same position breaks up definition and gives to a matt surface print something of the appearance of a print on these fabrics.

The Photo-Beacon Exposure Tables are guaranteed correct. Price, 25 cents.

HOW TO MAKE A GOOD MOUNTANT.

SECOND PRIZE ARTICLE.

A good mountant is one of the most essential things in photography. By a good mountant I mean one that will not cause the prints to fade or cockle, or be lumpy, thin or watery, so it will run out from under the edge of the print when mounting; one that will not sour, is strictly adhesive and always ready for use.

Corn starch, rice flour, etc., make very good mountants, if made fresh every time you want to use them. A few drops of acid will keep them from souring; but they will get lumpy and watery, and are then unfit for use.

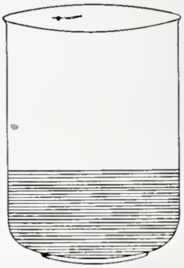
I have tried a great many recipes which I have found in photographic publications; but they all had their drawbacks. The only really successful mountant I have ever made is white shellac.

Take a large-neck bottle and fill it one-third full of pure alcohol, or about one-half as much alcohol as you wish to have mountant. Then add white or bleached shellac, of which you can get quite a large piece for 10 cents at almost any drug store. Add the shellac to the alcohol, a little at a time, until it gets the consistency of cream. It will require some little time for the alcohol to cut the shellac.

Cut a hole through the center of the cork large enough to push the handle of your brush through far enough so that the brush or bristles are in the solution about an inch. Put some shellac around the handle of the brush where it goes through the cork so as to make it air-tight. If it is not air-tight the alcohol will evaporate, and the contents of the bottle will become too thick for use and more alcohol must be added. Be careful not to get the shellac on the neck of the bottle, or the cork will become cemented in the bottle.

A glass jar, the same as is used for jelly, and having a tin cover, is better than a bottle, and only costs about 3 cents, and can be bought at almost any grocery store. Cut a round hole in the center of the tin cover about one inch diameter and have a tin tube soldered in, about four or five inches long. It can be straight or tapered to about one-half the size at the top end, which must be closed. Fig. I shows the glass jar half-full of shellac. Fig. II shows the cover with the brush B pushed up in the tin tube; *c*, *c*, are two wires, which should be spring wire, soldered at each end *a*, *a*, *a*, *a*. These wires must be parallel to each other, and the space between them should be about one-half the thickness of the handle. The wires must come across the center of the hole and must spring apart so as to hold the brush when pushed up between them. The jar is now complete.

FIG I



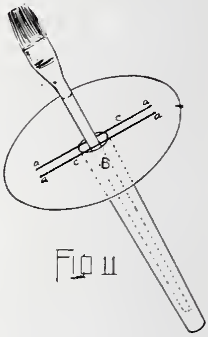


FIG II

When the brush is not in use, push it up in place between the wires, place the cover on the jar, which should now be air-tight, and the brush just out of the shellac. If the brush is not kept in this way, it will become hard. When you wish to use it, remove the cover, pull out the brush and do your mounting.

There is no cleaning of the brush afterward. The cover will not stick, as it goes on the outside of the jar.

You now have your jar and mountant which will give you no more trouble than any other and one that is suitable for all purposes.

To mount, apply the shellac to the back of the print, the same as you would any mountant and mount in the same way. It is better to let it dry before placing the print on the card or in the album, which will require but a few moments. When perfectly dry, place on the card, or whatever you wish to mount the print on, exactly where you want it. Lay a blotter or piece of paper over it, but be careful not to move the print in so doing. Pass a warm iron over it — not a hot iron, but hot enough so you can bear your hand on it. The heat softens the shellac mountant and when cool again you will find the print smoothly and evenly mounted.

If you have a print mounted with shellac and wish to remove it at any time, lay a blotter over it and pass a warm iron over it a few times, and you can pull it off.

With this mountant you can mount your pictures on anything and there will be no danger of their fading. It renders the back proof against moisture or anything in the mount that may be injurious from passing through the back of the print into the emulsion.

With other mountants you have to be very careful on what you mount your prints. Prints mounted in ordinary scrapbooks will fade, for chemicals are used in the manufacture of the paper that cause the prints to fade if mounted with starch paste. Not so with shellac. With shellac you can mount on any piece of cardboard, wood, iron, or almost anything and it will stick and not fade, if the print has been properly fixed and washed.

If you take some of this mountant and thin it with alcohol so that you can hardly tell that there is any shellac in it, and coat the face of the print with it one or two coats, it will make it proof against moisture and will give the print a better wearing surface, and it will take a higher polish in burnishing than the ordinary gelatin coating.

In mounting use a stiff brush about one inch wide. W. Marshall,

24 South Porter street, Elgin, Illinois.

[In the first-prize article on "How to Make a Good Mountant" there was a slight error. On page 224 of the September No. it reads, "if well *cooked*," etc.; it should read, "if well *corked*." —Editor.]

I wish to add my testimony as to the value of your admirable little books "First Step," "Second Step" and "Exposure Tables." I could not keep house without them.

F. W. Shillitto, Jr.

OUR THIRTEENTH PICTURE COMPETITION.

This competition brought in a larger number of prints than the last, some quite creditable; but, as a whole, they show lack of study, are deficient in artistic value, as well as being mechanically inferior.

If our readers will call to their aid the isochromatic plate and ray-filter they will find flower pictures a fascinating study and delightful pastime. The prize-winners are:

First Prize. — Miss Belle Johnson, Monroe City, Missouri.

Second Prize. — Walter G. Snyder, 322 Sheridan street, Detroit, Michigan.

Third Prize. — George A. Webster, City Hall, Chicago, Illinois.

FUTURE COMPETITIONS.

Competition No. 15—Genre pictures, or pictures that "tell a story"; closes October 31.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

PRESERVATION OF RUBBER GOODS.

Every one familiar with vulcanized rubber articles, chemical gloves, for development and so forth, is aware that they are liable to deterioration, and, at times, to become absolutely useless if kept for some time without being used. A writer in a scientific contemporary states that he found that in the Western States of America, where the deteriorating action of time referred to seems to be intensified by the extremely dry condition of the atmosphere, it is the custom to keep such articles wholly immersed in weak ammonia solution.

THE PHOTOGRAPHIC ASSOCIATION OF OHIO

Held the ninth annual convention at Put-in Bay from August 30 to September 1. According to the report sent in by the secretary, Mr. Bateham, it was in every way a grand success, the weather and all the surroundings of the hotel being all that could be wished, the Association being so pleased with the way they had been treated that they unanimously voted to return next year when, if present arrangements can be carried out, they will be joined by the photographic associations of Michigan and Indiana, with a tri-State convention.

There appears to have been quite a feast of good things, Mr. Beck delivering a lecture on composition and art principles useful to photographers, and Mr. Hume reading a paper upon development and negative making.

Prof. A. H. Griffiths, of Detroit, being present, was called on and made a short speech, commending the Ohio association and exhibits, which was warmly applauded.

Instruction box was opened and many interesting topics ably discussed.

The following officers were elected for the ensuing year: President, C. L. Lewis, of Toledo; first vice-president, C. S. Bateham, of Norwalk; second vice-president, R. W. Mathews, of Piqua; secretary, A. L. Bowersox, of Dayton; treasurer, W. L. Smith, of St. Marys.

The following awards were then announced:

Grand Prize.—I. Benjamin, of Cincinnati.

Genre Class.—First prize, gold medal, A. L. Bowersox, Dayton; second prize, silver medal, E. P. Osborne, Wooster.

Class A.— First prize, gold medal, Kisselle Brothers, Findlay; second prize, silver medal, A. L. Bowersox, Dayton; third prize, bronze medal, Lane & Co., Columbus.

Class B.—First prize, gold medal, C. H. Scheide, Elyria; second prize, silver medal, K. G. Goddard, Lorain.

Class C.—First prize, gold medal, Hugh B. Williams, Jackson; second prize, silver medal, F. S. Smedly, Berea; third prize, bronze medal, H. B. Bundy, Montpelier.

Class D, Rating Competition.—Diplomas were awarded to W. E. De Garmo, Toledo, and L. C. Overpeck, Hamilton.

Class E, Views.—First prize, silver medal, H. W. Mimms, Akron; second prize, bronze medal, J. H. Burkholder, Mansfield; third prize, diploma, Benjamin H. Minton, Bellevue.

(Signed, F. R. Barrows, George H. Van Norman, D. D. Spellman, judges.)

Special Class, for Professional Photographers outside the State of Ohio.—First prize, gold medal, George H. Van Norman, Springfield, Mass.; second prize, silver medal, Pirie McDonald, Albany, N. Y.; third prize, bronze medal, D. D. Spellman, Detroit, Mich.

A special award of a diploma is awarded George E. Tingley, of Mystic, Connecticut, for his remarkably fine sheep study.

The afternoon was devoted to individual instruction and criticism among the exhibits by Professor Beck and William J. Edmondson. As on the two previous days, these artists had an eager group of listeners surrounding them, and for several hours instructed the listeners in art composition and gave helpful suggestions by which photographers could improve their work from an artistic standpoint.

The evening of the last day President Edmondson was called into the hall "to help finish up some important business," and before a small group of friends Mr. Lewis presented him with a beautiful bisque bust, as a token of the association's appreciation of his work as president during the year. Mr. Edmondson was taken so completely by surprise that he could only utter a few words of thanks and join in the general laugh.

Everybody seemed pleased with the ninth convention and in addition had a very enjoyable time. There were about five hundred in attendance, an unusually large representation of ladies, and each evening there was music and entertainment, while the spacious cool verandas and lawns of Hotel Victory afforded opportunity for cool, delightful rest, during the hot weather of that time.

Wednesday evening Doctor Ladd, of the Ohio Color-Photo Company, entertained a large and appreciative audience with a history of photography in color, and illustrated his talk with one hundred beautiful stereopticon views, all done by their perfected McDonough process, which were so true to nature and perfect in color and shading as to cause constant exclamations of wonder and admiration from the audience. Mr. G. M. Edmondson, of the same company, gave practical demonstrations of the process to those interested.

Practical demonstrations were given in the mornings by the American Aristo Company, Nepera Chemical Company, and Willis & Clements.

The salon, so dear to Ohio photographers, was this year in better shape than ever. Most of the pictures that were spoiled had been replaced and all had been tastefully framed by the association, so that the effect was much better. They were displayed on a specially prepared background in the hotel reception room, and were constantly surrounded by people interested in the highest types of portrait photography. As the manager guarantees their safety the pictures will remain on exhibition in the hotel until the next convention.

The exhibits for prizes were displayed in booths arranged at the windows of the convention hall, and with potted plants and tasteful hangings presented a very beautiful appearance. The light on them was excellent and the displays themselves showed marked improvement over past work.

There were a large number of entries in the special class for photographers outside the state, many of the prize pictures from Celeron being sent, besides a number of complimentary exhibits. Each of the officers made a good showing of excellent work which seemed to please the members.

When you want a book on any special photographic subject apply to us, for we carry in stock every book published in England on photography. One hundred and fifty different titles.

THE PHOTO-BEACON CO., Chicago.

Negative by E. L. Powell, Chicago.

A RELIC OF THE PAST.

INTERNATIONAL PHOTOGRAPHIC EXPOSITION.

Great progress is being made with the mammoth exhibition of photographic apparatus which will be held at Madison Square Garden, New York city, in October next. Space is rapidly being secured by representative manufacturers, and everything tends to make this, the first exhibition of its kind, one of the most popular exhibitions ever held in that city.

One of the most interesting features of the exhibition will be a very fine historical collection which has been loaned by some of the leading workers in photography on the other side of the Atlantic.

Possibly the most interesting photographic work extant is a large volume known as the "Photographic Album for the Year 1855." This is copiously illustrated with actual photographs, made by the great workers of that day, illustrating the various photographic processes then in vogue. There are forty-four of these photographs by such workers as Mansell, Rejlander, Bedford and Fenton. These photographs are now forty-four years old, but are in a most excellent state of preservation, and compare more than favorably with the work of today.

"Taylor's Photographic Memoranda" is a publication illustrated by actual photographs, and accompanying it are the four original calotype negatives from which the four prints were made.

Three stereoscopic daguerreotypes, which created a sensation at the exhibition of photographs at the Crystal Palace last year, are on exhibition, and bear out the statement that a stereoscopic daguerreotype is the finest picture possible by photography.

The calotype process is exceedingly well represented, some very large calotypes made by Henry Taylor about 1855 being possibly the best specimens extant. Five calotypes of Rye are exceedingly interesting. Another calotype entitled "Pollards at Compton" is contained in an envelope made of the same paper as the support of the photograph. This particular paper was the only brand which, by reason of its absolute purity, would serve for the purpose. Other interesting prints are "Stonehenge," "Salisbury Cathedral," and the "House of the Five Gables," at Stratford-upon-Avon.

Another remarkable work is Daguerre's "History and Process of Photogenic Drawing," published by Daguerre in 1839, containing bill granting him pension, Arago's address before the French Academy announcing the discovery of photography, and the correspondence between Daguerre and Nièpce.

MR. JEX BARDWELL'S DEVELOPING FORMULA.

Mr. Bardwell calls attention to an error in Formula No. 2 (metol hydro). It should read "one fluid *dram*" of a ten per cent solution of bromide of potassium, instead of "one fluid *ounce*."

A NEW FILM.

The prospectus of Secco Films (British and Colonial), Limited, has been issued. The capital is £100,000, of which 66,667 are offered for subscription, 20,000 of the issue being appropriated to provide working capital, the balance of the nominal capital being allotted to the vendors in part payment of the purchase price. The directors are Sir R. T. Goldsworthy, Major Patton-Bethune, Mr. O. Treherne, Mr. T. C. Hepworth and Mr. P. E. Butler.

To the technical properties of Secco films we made full reference in our issue of July 7 last. Reproductions of negatives obtained on the film accompany the prospectus, and there are included the opinions of many eminent British and Continental photographers upon its capabilities. As we have over and over again pointed out, there is a large and growing demand for flexible films among amateur photographers and others, so that the Secco Company could hardly appear at a more appropriate time. At the press demonstration of the film a few weeks ago, we subjected it to severe trial, and found it work with exceeding ease and facility. In this respect we are convinced that its chances of success are undeniable.—*British Journal of Photography.*

M. Emile Zola, while awaiting with intense eagerness the issue of the Dreyfus court-martial at Rennes, was busy in his country house at Médan over the snap shots which he took in London in his character of amateur photographer, as well as searcher after human documents. His collection of photographed scenes and persons is varied and interesting. He has hotels, bridges, public houses, and an assortment of the tatterdemalions and castaways who are, he says, so numerous in London. M. Zola laments that he lost several shots, notably one of a flower shop, where he bought bouquets every morning for his wife when she was ill.—*British Journal of Photography.*

"First Step in Photography." Just the book for beginners. Price, 25 cents.

DETERIORATION OF ALUMINUM.

The use of aluminum in photography is mainly confined to lenses and fittings, though it has been recommended for dishes or trays for various operations of the darkroom. A report presented to the French Academy of Sciences by M. Ditte some time ago tended to show that it is very unsuitable for all utensils intended to contain liquids, and, although his research more particularly referred to cooking utensils, it is obvious that similar results must obtain when the metal was employed for liquids in photographic processes. Thus, he found that weak acetic acid quickly acted upon, but water alone sufficed to dissolve it. In the Madagascar expedition large tanks of aluminum were employed for storing ordinary drinking water in, and it was found that they quickly became pitted with holes. On the other hand, M. Moissan, a great authority on such questions, traverses M. Ditte's report. He points out that the aluminum vessels supplied were made in the early stage of the industry, in the working of that metal, and were very far from being pure aluminum, a condition of affairs known to greatly favor corrosion. M. Moissan also points out that this metal readily forms an electrolytic couple with almost any other metal, and that the pitting referred to was owing to undoubted electrical action, the tank frames in contact with the aluminum thus setting up action that resulted in solution of the sides of the vessel. An interesting discussion took place between the two eminent authorities, the result being the conclusion that, so long as contact with the other metals was avoided, the use of pure aluminum for household or military utensils would not be attended with any possibility of danger or inconvenience.—*British Journal of Photography.*

TINTED SCREENS.

Whenever a small screen of any tint is required in photography, it can be easily made with a lantern plate. Take a lantern plate and fix thoroughly in the darkroom, in two lots of hypo solution, then wash it well, drain and immerse in an aqueous solution of the dye most suitable. A great number of dyes, such as Judson's, of almost any tint can be obtained, most of which can be made into aqueous solutions, though in some cases acidulated water is necessary. The stronger the solution, of course, the deeper color the gelatin will be stained, but excess of color can be discharged by washing if too pronounced.

For use with isochromatic plates, a screen can thus be made with a saturated solution of picric acid. In this solution a screen of a light lemon color can be obtained, which is very useful and also inexpensive.

Lantern "tinters" as now used largely can also be made by the above method. One precaution is necessary. Filter solutions of dye before using them, when possible, and take care to dry the screens in a place free from dust.

R. W. K. G.

ANXIOUS MOMENTS.

We have still a few "Photograms" of 1897 and 1898. These books are nearly all out of print and those who want copies should apply at once.

I RECEIVED some time ago from your office a renewal slip for THE PHOTO-BEACON, but thought then I would not take it this coming year. However, I have changed my mind and believe it is $1 well invested.

WALTER H. CLARE.

THE LANTERN.

METHODICAL SLIDEMAKING.

There is no section of photographic work so fascinating, interesting and valuable as lantern-slide making, and, like all other operations, if taken methodically, its practice is much more pleasurable and profitable. Some men — not so many women — are so slap-dash, unmethodical, and even slovenly in their work, that they tire themselves out, and give things up in disgust, and if this little article induces the amateur to make his lantern slides systematically it will not have been written in vain.

The formulæ on the plate boxes show how the developer is to be prepared and the approximate exposure that is to be made, and of this we need not speak, but prepare your darkroom beforehand after the following method:

Put your box of plates on the left-hand side of the bench or table. In the center (at the back side of the table, farthest away from you) the batch of negatives you intend to print from. In front of you the printing frame, with back detached. On your developing table place two wooden shallow boxes with lids (candy boxes procured from the nearest grocer for a penny will do). In one of these put your developing dish, in the other your fixing bath, and shut down the lids. If you have a tap of running water, see that the sink or basin under it is empty and the plug out; if without a tap, get a child's zinc bath and nearly fill it with clean water (take the chill off with a jugful of warm); now close your lamp, which, by the way, should either have a ruby glass to slide up and down to expose the light, or, better still, a by-pass burner, by which the light may be turned up and down as required. Now dust your negative and place it in the printing frame, carefully noticing that the film side is uppermost. Take out a lantern plate, and having dusted it, place it, of course film downward, on the negative. Fix the back on, and hold up the frame with the left hand, front toward the lamp, and at a suitable distance, according to directions on the box, and with the right hand turn up the light and give the necessary exposure. If your lamp and darkroom will admit of it, a plank of wood from the front of the lamp to the opposite wall, marked on its edge with different distances in feet, is most useful. The negative can then be held at these marks definitely and without guesswork. Turn down the light, place the printing frame face downward on the bench, take out the lantern plate, dust it, and place it in the developing dish in the wooden box, shutting the lid. Then carefully put away the used negative, and taking the developer previously mixed, turn up the ruby light, and pour the solution with a sweep over the exposed lantern plate, shut down the lid of the box, and rock the dish. When development is complete, wash the plate under the tap, or swill it in the bath of water for a minute or two, then lay it in the fixing bath and shut the lid. You can then proceed with the same routine for another exposure, and by the time the second slide is developed the first one will be fixed, and can be taken out of the darkroom to your washing tank, to remain for half an hour under running water.

The advantage of using shallow boxes for the dishes is that the lids protect the plates from accidental admission of white light, and enable you to leave the darkroom whenever you like. They also prevent anything dropping on the plates, and if both the wooden boxes are fastened side by side on to the end of another and broader box both dishes may be rocked at once.

For drying the plates, a domestic step-ladder, in a dustless room, makes an excellent rack, two slides being placed on end on each step against the sides of the ladder. When dry, mount the slides systematically as follows: Spread out a newspaper on your bench or table, place the lantern plates at the left-hand corner, your masks, one after another, in different shapes, along the outer edge of the newspaper, directly opposite you, your cover glasses in a heap at the left-hand bottom corner, your binding strips in the center, and your paste-pot at the right-hand bottom corner, brush some paste over one of the binding strips, take up a lantern plate with the left hand, and selecting a mask suitable to the picture, place it on the plate, and then on that a clean cover glass. Put the lot squarely together, and then press the bottom edge down on the gummed strip in front of you, and with a penknife slit off the length. Turn the slide up on end, and with thumb and finger of right hand gently press the binding strip down; do it neatly a second time with a pocket handkerchief between finger and thumb. Proceed the same with the other three sides, and stand on end to dry and set. The masks with spots, and a white line for title, are extremely handy for lantern-slide making.—*The Photographic News.*

"Esperance."

PRACTICAL LANTERN TIPS.

A BOX OF "NEGATIVES."

FOR THE OIL-LAMPIST.

1. Do not buy an oil-lantern for half a sovereign and expect it to be equal to your neighbor's lime-light, which cost him four guineas.

2. Do not buy a secondhand lantern without first seeing it.

3. Do not buy "any sort" of oil and think you are going to have a splendid show. Your exhibition will probably be like your oil, poor at its best.

4. Do not forget to clean your lamp well. Your audience comes to see and hear, and not to have their olfactory nerves shattered with petroleum vapor.

5. Do not forget to put a few pieces of camphor into your oil reservoir. You will find it a welcome adjunct to your lighting power.

6. Do not begin your show immediately after lighting up. If you do, look out for broken glasses, back and front, and fear not a cracked condenser.

7. Do not use an oil-lantern at distances beyond fifteen feet from the screen—*experientia docet.*

8. Do not make your lantern into a furnace chimney; smoke is plentiful enough; it need be reduced, not induced.

9. Do not leave the manipulation of your lamp to a novice who "can easily turn up" for you. You will have to leave your reading every few minutes, and your audience will remember your want of thought, not Johnny's ignorance; therefore, if you do the reading, have a reliable man operating.

10. Do not read into your reading-lamp—the first few sentences will often settle your people's comfort or otherwise. "Could you tell what he said?" is a question often asked, not without cause.

11. Do not think of a "collection" in the middle of your lecture—trust your friends.

12. Do not begin ten minutes late and make up thirty for them at the end—everybody is not so enthusiastic about the performance as you are; they expect you to begin at the time stated and to release them at the most in one and a half hours without putting them to the necessity of "walking out."

"Grapho."

Use a black felt pad in the printing frame when making slides. Make two exposures, one with and the other without the pad, and note the difference, both in handling and in the resulting slide.—*Junior Photographer.*

I have not lost a plate in the last hundred exposures, owing to the correctness of your exposure tables. Wishing you much success,

W. W. Cloon.

EDITORIAL TABLE.

We notice that the first and second numbers of the *Photo-Miniature* ("Modern Lenses" and "The Pose in Portraiture") have reached a second edition. We congratulate Messrs. Tennant & Ward on their well-deserved success.

"Right Road to Photography" is the title of Dr. J. Nichols' last work, a copy of which we have received from Mr. G. Gennert, New York. It covers the same ground as most of its predecessors, without any novelty in the way of treatment of subject, except to call attention to the different specialties handled by its publisher.

"Photographic Pointers" is the title of a four-page circular issued by the Haller-Kemper Company, 35-37 Randolph street, Chicago, the distributers of the well known developer, Tolidol. The circular has for its object to call attention, in the first place, to Sensitol, by means of which any one can sensitize a great variety of materials, such as silk, linen, cotton, velvet or woolen cloths, paper, wood, and even stone and glass. A half-tone illustration on the front page shows a very pretty application of Sensitol, where a handkerchief that had been sensitized in one corner has a portrait printed on it. Flash-light powder, among other things, is prominently quoted, and as the time for flash-light work will soon be here, such notice is quite seasonable.

"Modern Photography in Theory and Practice," by Henry G. Abbott, is a handsome volume, bound in green cloth and gold-lettered. It is a comprehensive treatise on every branch of photography, illustrated with prints by all the various printing processes extant. The directions and formulæ are clear and concise, and the book forms a valuable addition to photographic literature. It is published by Hazlitt & Co., Chicago.

With the September No. of the *Camera and Dark Room* is combined the *Pictorial Photographer* and *Developer*. In the editorial, the editor says: "In union there is strength." Our united policy will be to give to photographers the best journal published in their interests, and one that they can not afford to do without. We will have departments for all purposes, and articles by the best writers; food for the more advanced and scientific mind, as well as palatable nourishment for the youngest learner." We wish this trinity of photographic journals success on the not untroubled sea of photographic journalism.

We also greet the *Southwestern Photographer* at the close of its first year. This is the official organ of the Photographic Association of the State of Texas, published by C. Weichsel, of Dallas, Texas. In the number just to hand we find that the publisher has made arrangements with Professor Cummings (who is well known to the Texas fraternity) to take the editorship.

"The Northwestern Amateur" is another journal devoted to the interest of amateur photographers, published by the well-known stock dealers, Zimmerman Brothers, of St. Paul, Minnesota. It is full of good things for the amateur in the reading matter, and the cuts are above the average.

The Passenger Department of the Burlington & Missouri River Railroad are offering prizes of \$20, \$10 and \$5 for the best photographs of farm scenes along its lines in Nebraska and Kansas. Send for particulars to J. Francis, general passenger agent, Burlington Route, Omaha, Nebraska.

In the *British Journal of Photography* for September 8, we notice some appreciative remarks upon the report of the convention of the Photographers' Association of America at Celeron, and two of the papers read at that convention are reproduced in full for the benefit of our transatlantic cousins. They are "The Illegitimate in Photography," by Mr. J. S. Schneider, and "Prices and How to Get Them," by G. G. Rockwood. We heartily welcome this kind of reciprocity.

THE PHOTO-BEACON.

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Published Monthly.

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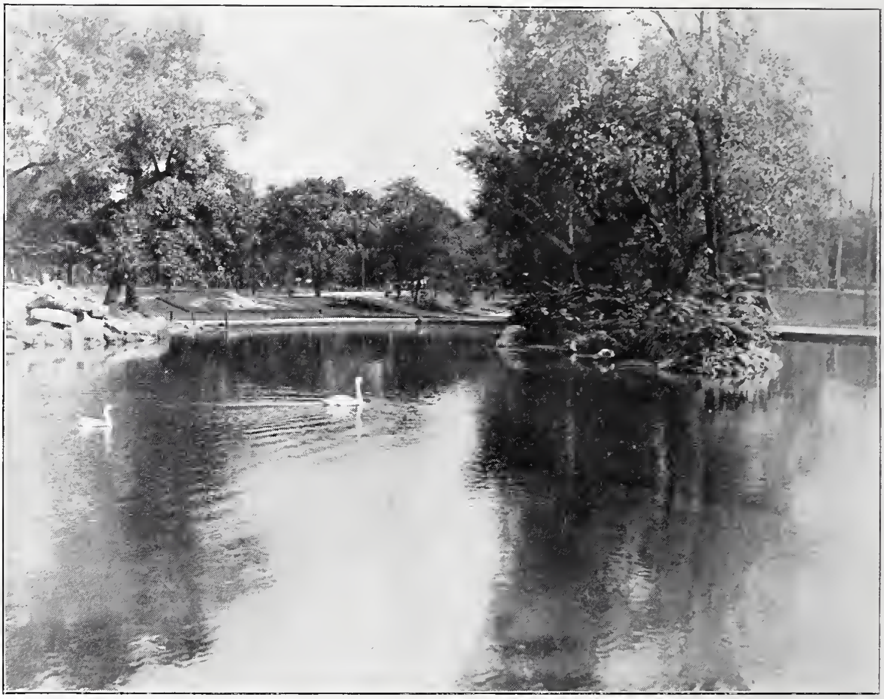


Negative by F. M. Alexander. Pittsburg, Pa.

FIRST PRIZE.

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. NOVEMBER, 1899. No. 11.

HOME AGAIN.

After my week in London, I settled down more decidedly in favor of golf than ever before, but my better half soon decided that it was about time for us to attend to the social amenities. All our old friends were off to the country during the months of July and August, returning in September, and as we proposed starting for Chicago at the end of the month, it meant considerable hustle to get round most of our friends.

We began with a run to Perth, then over to the country round the famous Loch Leven. We then started up the Almond to visit "Drumtochty," calling in on the way to see a mighty fine old couple we had known years ago. Both were well on in the seventies, but although they had lived in Ian MacLaren's country most of their life, they had never heard of him or "Drumtochty." We wanted to know the most expeditious way of covering the half dozen miles up the glen, after we had tried to get the old lady to understand why we wanted to go. But she ignored all our remarks. "I canna see what you want to gae up the glen for, I'm sure it's far bonnier doon here," which was certainly true. So I whispered to my wife, "Never mind Drumtochty, better enjoy this fine specimen of real Scotch worth and character, than hurry through the land of the ideal." And thus all we saw of the "Tochty" was where it led along the "lade" to drive the waterwheel of the mill.

Our biggest undertaking was to take all our young folks, five in number, across to Edinburgh, to call on our old friends; I'd be ashamed to confess how often my wife and I were heard to mutter one, two, three, four, five, as we paused at street corners preparatory to getting on a car, or as we got off one. I don't know that we were specially careful to note features, and I am afraid somebody could have abstracted one of our flock had they been careful enough to substitute another, and we would never have noticed the difference. Four days of this sort of thing in Edinburgh, to which may be added the universal desire to stuff our young folks with cake and candy, necessitating eternal vigilance on our part, for I can assure my readers the junior members were more than willing to be killed with kindness, and we were glad to move on Greenock. This city bears the reputation of being always in a sloppy condition, although the residents assert that it does not always rain there. "No, it sometimes snaws," cynically remarked an east countryman, and I fancy that is about correct, for it just poured about all the time we were there. It was the only real wet day that we had in three months, and it did seem funny to us that we should meet that damp experience in Greenock.

The remainder of our stay was devoted to calling on friends nearer home, and then we started for home, "home" this time being Chicago, and much as we had enjoyed every minute in Scotland, we felt, after all, Chicago was not a bad place to live in. The westward passage was not so agreeable as the eastward, and at noon Sunday practically everybody on board succumbed to the jolting motion as we caught the full roll of the Atlantic. For twelve hours we had stirring times in our room, but for one thing we were thankful, the misery was fairly equally divided. Our chronic seasick young man got off much easier and by Wednesday began to pick up. When we landed in New York he was able to walk ashore, and on the homeward trip sat up and enjoyed the beautiful tints on the maple as we ran through Canada. Such gorgeous tints I had never before seen on vegetation, although I had fancied that a hillside covered with heather was as beautiful a sight as one could see.

We landed in Chicago on Monday night to find the city all disorganized on account of a big demonstration. I have never found time to learn what it was all about, but I have a hazy idea it was a sort of triangular business, in which were Chicago Day, the new postoffice and the President. I know this much: that it caused me a whole lot of anxiety to pilot my little crowd across the city of Chicago from one depot to another, and it was an hour past midnight when I saw the last of them inside the door at "home." Then I lifted up my hands, drew a long breath and said, "Thank goodness." F. Dundas Todd.

"USEFUL ARTS AND HANDICRAFTS."

Such of our readers as are hobbyists or jackknife carpenters should read our advertising columns and see what a splendid bill of fare we are about to provide for them. There will be no twiddling of thumbs this winter with those who are wise, and the young folks — boys and girls alike — will be kept busy. Did you ever notice how young folks in their early stages always want to do something and how the old folks are generally saying "Don't do," till at length the young folks stop doing, and are then called lazy? Here's the finest chance to teach them to do, and no possibility of regret afterward.

A PLEASANT WORD.

Milwaukee, Wis., August 8, 1899.

The Editor of Men:

Dear Sir,—I notice that in your list of "Best Periodicals," just published in *Men*, you have none on the subject of photography. With all the hundreds of enthusiastic amateurs we have in this interesting hobby let me suggest that you round out your list again to an even forty and add The Photo-Beacon, published in Chicago and costing only $1 per year.

For an amateur photographer I think it is the best magazine published.

George C. Blakslee.

691 Shepard avenue.

FOURTEENTH PICTURE COMPETITION.

The fourteenth competition brought in a larger number of prints than for some time past and we hope from now on the interest will continue unabated. The prize-winners are:

First prize — F. M. Alexander, Pittsburg, Pennsylvania.

Second prize — William Bayliss, Cedar Rapids, Iowa.

Third prize — C. M. Whitney, Westminster, Massachusetts.

In addition to the three mentioned we reproduce three others which may prove of interest to our readers.

FUTURE COMPETITIONS.

Competition No. 16 — Instantaneous work; closes November 30.

Competition No. 17 — Landscapes; closes December 31.

Competition No. 18 — Special. Any kind of subject, open to beginners in photography since January 1, 1899; closes December 31.

Competition No. 19 — Special. Best photographic Christmas card; closes December 31, 1899.

Competition No. 20—Special. "Accidentals," such as "double exposure," "film melted," or, in fact, anything that was got by accident; closes December 31, 1899.

LITERARY COMPETITION NO. 7.

COPYING PHOTOGRAPHS.

This was a very close competition, the contributions being of nearly equal excellence. In one particular they were all alike, namely, in the omission of all mention of methods of improving the prints to be copied.

It frequently happens that old and rubbed photographs have to be copied, and it is very necessary that the surface should be restored if a satisfactory copy is to be obtained. If the abrasions are not too bad, rubbing the surface with beeswax will suffice. Make a wad of a piece of canton flannel, rub it upon a lump of beeswax and then rub it briskly over the print. Another method is to brush over the print with glycerin and copy while wet. The glycerin can be removed with alcohol without injuring the prints. Still another method is to flow over the print some plain collodion, and copy before it dries. For badly damaged photographs we have succeeded in getting a very excellent copy in the following manner: Get a printing frame of the old pattern with plate-glass free from scratches. Drop a pool of glycerin in the center of the glass; then, bending the photograph so that the center touches the glycerin, first lower it, gently pressing outward till the photograph is in optical contact with the glass. Then copy through the glass.

The prize-winners are:

First Prize — Frank C. Elliott, Los Angeles, California.

Second Prize — A. G. Woodward, Essex, Massachusetts.

Third Prize — W. Marshall, 24 South Porter street, Elgin, Illinois.

LITERARY COMPETITIONS.

No. 9. What points must be considered in making a negative of an interior—say an ordinary room? Send in prints to illustrate your ideas. Closes November 15.

No. 10. How to utilize photography as a hobby during the winter. Closes December 15.

PRIZES.

First.—Five dollars cash.

Second.—Two and a half dollars cash.

Third.—A year's subscription to The Photo-Beacon.

RULES.

1. Write on one side of paper only.
2. Be brief, sending less than 1,000 words, if possible.
3. Never mind style — use the smallest words you know.
4. If a drawing will make points clearer, send it. Don't worry if it be rather crude; we will put that right.
5. Write your name and address at the end of the article.
6. Mark the envelope "Literary Competition."

The Photo-Beacon Exposure Tables have been worth $200 to me.

G. F. Green,
Waynoka, O. T.

FAULTS, PERSONAL AND OTHER.

It has been characteristic of human nature from the first to blame others for the faults that we ourselves commit. Therefore, although there are some difficulties that we suffer from which no effort of our own can avoid, it is always worth while to investigate what we know to be erroneous, with the aim of discovering whether the remedy does not lie in our own hands. This applies with special force to the practice of photography, for it has become the custom to regard photography as inherently imperfect in all sorts of details.

We are told that in portraiture it exaggerates the shadows, that in landscape work it makes mists appear that do not exist in nature, that it gives bad perspective and wholy false rendering of colors. Sometimes it is called imperfect because its results are in monochrome, which is no more reasonable than it would be to complain of the sculptor's chisel because it is not a brush charged with all the colors of nature. Thinking of the many faults charged to photography, it is almost a wonder that anybody ever makes any photographs at all.

It may seem a bold statement, but I venture to make it, that the exaggeration of shadows, the production of mists and the bad perspective are not the imperfections of photography, but the faults of the photographer himself, and the same may be said of the false rendering of colors so far as ordinary work is concerned. There does, perhaps, exist a tendency in photography under certain circumstances to allow these faults, and so the photographer may be tempted to commit them, but if he yields to the temptation, whether because of ignorance or carelessness, the fault is his and his only. On the other hand, while photography is true if properly practiced, if our preconceived notions are false, it may not agree with them, and its very accuracy may appear to be a fault.

Photography is mechanical, and that is its strong feature; it is free from personal bias; it *can not*, except in rare cases and by mere coincidence, make the same mistakes that we do, or follow the fashion, as too many try to do.

The disagreeable perspective shown when too wide an angle is included in the picture, as in a small interior, is not false but wholly and absolutely true. If an artist in drawing eliminates the disagreeableness by representing the scene as it would appear from a more distant and impossible point of view, still it is the drawing that is wrong and not the photograph. The fact that, perhaps, the drawing appears more correct than the photograph is only a matter of what we happen to be more accustomed to at the present time — a matter of fashion, so to speak—and will probably change just as the shapes and colors of animals and trees, as represented by artists, have changed. Photography, being mechanical, is not affected by fashion, and that is its strong recommendation.

I believe that artists who draw will generally allow that they adhere to the principles of plain perspective, or at least aim at doing so; but still, if they have to represent a sphere, it seems they draw it round wherever it may come on the surface of the canvas. Now, the image of a sphere, as projected on a flat surface, is round when immediately opposite the point of sight, but in all other places it is drawn out to an egg-shaped figure. The photograph gives the image in plain perspective, and can not do otherwise because an object happens to be spherical. If it could, the chief value of a photograph, its mechanical accuracy, would disappear.

A photograph can not show the sun or moon a hundred times larger than it really appears, though artists often do. In these and in many other cases the photograph appears to be at fault only because it does not conform to the conventions of the present day — conventions which will probably after a while become as obsolete as fiddle-brown tree trunks, and galloping horses with their legs spread out before and behind in the impossible manner that used to be considered true.

The exaggeration of shadows in portraiture is simply an example of unskilful work. Either the lighting of the subject or the photography is badly done. Photographic apparatus can not distinguish between portraiture and landscape, to deepen the shadows in the one and flatten them in the other, and in either case, if the shadows are falsely rendered, it is the fault of the photographer alone. Of course, photography can not fill out hollow cheeks nor obliterate wrinkles without similarly falsifying the whole picture; the making of such changes as these is the work of the retoucher and a matter of fashion, though, perhaps, not a passing fashion. Retouching is not photography, and if any retouching is necessary to make a photograph true, then the photography has been badly done. But, on the other hand, if the general idea of true portraiture is an erroneous idea, a mere convention or fashion, then, of course, a genuine photographic portrait will appear to be incorrect.

Fashions in portraiture have changed and will change again, but the truthfulness of good photography can never change.

Perhaps the temptation to get unduly dark shadows in portraiture is chiefly due to under-exposure, one of the greatest evils in photography. There are two reasons for under-exposure in this case, namely, the desire to get quick-printing negatives, and the wish to impress the sitter by the shortness of exposure necessary. The shorter the exposure, the less chance there is of the sitter moving and spoiling the plate, and a quick-printing negative saves time, both items tending to economy — to lower prices or larger profits. But this is a matter of business, and certainly important enough, though it does not in any way concern the possibilities and shortcomings of photography. Cheap goods may be useful in spite of their faults, but they must not be accepted as illustrations of the best work.

The exaggeration of mistiness in landscape and the falsity of color-rendering are analogous phenomena. The "ordinary" plate is well known to have a color-sensitiveness that is very far from coinciding with the apparent brilliancy of colors. Photographs can be taken of objects that are in darkness by using the invisible ultra-violet radiations as one uses ordinary light; but, obviously, these are not truthful representations of what we see, because they are photographs of what is invisible under the given conditions. The want of coincidence between the sensitiveness of the plate and the sensitiveness of the eye leads to the incorrect rendering of variously colored objects when the colors are of certain kinds, and are not made practically negligible, as they often are in practice, by the great excess of ordinary white light which the objects reflect. But the resources of photography provide amply for such cases.

Even in using ordinary plates the difficulty may be obviated by the use of suitable color screens to reduce the light to which the plate is too sensitive. By the use of specially sensitized plates the large increase of exposure that would otherwise be necessary may be very much reduced, and it is possible in the great majority of cases, by taking advantage of the absence of certain colors in the subject, to get a correct rendering with even a further reduction of exposure. By the proper use of color screens it is possible to do almost anything that may be required in the matter of color rendering, for there are now some hundreds of different dyes available for their construction. Any errors in this matter, therefore, are due to the photographer, to either a want of skill or a want of care. But extreme accuracy in color-rendering is not always of as great importance as accuracy of form. Many objects change their colors—foliage and grass, for example, and when these occupy only a secondary place in the picture, an exactly truthful representation of them as they happen to be at a certain time may be of no possible interest. But, so far as the photograph is allowed to be incorrect, the fault is entirely with the operator, and it is wrong to put the blame on to photography.—*Photography.*

CHAPMAN JONES, F.I.C., F.C.S.

Negative by William Baylis, Cedar Rapids, Iowa.

SECOND PRIZE.

CHANGE of season makes a big difference in exposure. Trust in the Photo-Beacon Exposure Tables and you will have no trouble. They are guaranteed correct for all seasons.

FOCUSING MATERIALS.

Focusing in the case of interiors where much of the subject is quite invisible owing to lack of light, is an operation requiring a considerable amount of skill. The plan which follows is one which was recommended to us some few months ago by a clever architectural worker. It has the advantage that the very utmost degree of definition over the plate is obtained.

In many cases the most distant part of the view to be secured is a window or other bright object—the easiest to see, in point of fact. When this is the case the problem becomes a very simple one. When it is not, then a candle is fixed so that its flame can be focused in close proximity to the most distant part of the view. The arrangement, point of sight, and so on, are settled in the usual way, employing the full aperture of the lens. When it comes to focusing, the candle flame is sharply focused on the ground-glass, *using the stop which it is intended to employ*, and then the distance between the ground-glass and the lens is increased by racking out until the greatest possible extension, without making the window or candle-flame too blurry, has been secured. This is the degree, then, to which the camera must be extended to get the sharpest possible result, and if this does not give the extent of definition necessary, a smaller stop must be employed.

It is not always possible to see if this method is answering one's requirements, because the details in close proximity to the camera may be in darkness. If so, the candle, after focusing is performed, may be brought into the position of the nearest part of the subject, and its image again examined on the screen. If it is seen to be sharp, all well and good. If not, it is no good tinkering about with the focus, and the photographer had better make up his mind once for all that he must use a smaller stop, and face in the best way he can the increased exposure it will render necessary. In such a case, then, it is best to put in the smaller stop, and, replacing the candle at the most distant point, to start the operations over again. This we were assured was the method our friend always used, and it had never failed him.

There were, however, certain conditions under which it was necessary to reverse the operations, that is, to focus the nearest portion of the subject first, and then to rack the lens and ground-glass as near together as possible without spoiling the definition. This must be done when the furthest point is inaccessible, but he assured us that it never gave him so satisfactory a result; why, he could not explain.

Occasionally, under such circumstances, he wanted to know whether some distant detail, of the roof, say, would or would not be sharp when photographed, although it was quite impossible to see it on the ground-glass, and, being inaccessible, the use of a candle was out of the question. Sometimes the problem was practically insoluble, but it often happened that by turning the camera round, a small window, a white capital of a column, or other well-lit detail, at about the same distance from the photographer's standpoint as the invisible subject it was desired to focus, could be got upon the screen. If this were found to be sharp it might be relied upon that the other was sharp also, and herein, our friend remarked, lay one of the great advantages of the modern flat-field lenses. Working with one of the old-fashioned objectives it would not only be necessary to get on the screen the image of the detail at a similar distance, but it would have to be on the same part of the screen, but with a flat-field lens, of course this was by no means so important.

And then he drifted off into a eulogy of the latest types of lens, which is foreign to our subject.—*Photography.*

NOVEL WAYS OF MOUNTING AND FRAMING PHOTOGRAPHS.

Pretty and inexpensive ways of mounting and framing photographs and other pictures will be found in one of the early numbers of "Useful Arts and Handicrafts." The title of the number is "Picture Frames: Making and Decorating." Price, 25 cents.

Negative by H. K. Burr, Florence, Mass.

HAPPINESS.

THE INTERNATIONAL CONGRESSES OF THE EXPOSITION OF 1900.

CONGRESS OF PHOTOGRAPHY.

An international congress of photography will be held, under the patronage of the French Government, in the series of official congresses of the Exposition of 1900. The sessions will open on Monday, July 23, in one of the halls of the Palais des Congres, and will last until the afternoon of Saturday, July 28. For membership, it is sufficient to have paid the subscription fee of 10 francs; this gives a right to be present at the meetings of the congress and to take part in the visits which are to be prepared by the organizing committee. The members may also present communications and will receive the printed volume of proceedings.

This congress is to continue the work of the two previous international congresses, held at Paris in 1889, and at Brussels in 1891. It will examine the practical side of the resolutions adopted on those occasions, with a view to improving and perfecting them in the light of experience. Decisions will also be taken in regard to various new questions which have since arisen. There will be public sessions, as well as the general and section meetings, some of which will be devoted to practical work. There are also to be lectures and organized visits to scientific and industrial establishments.

Specialists are particularly requested to communicate to the committee their observations on questions which should be submitted to the consideration of the congress. The members of photographic societies and the editors of scientific journals are invited to make known as widely as possible the details concerning the congress. All communications should be addressed to the secretary-general, M. S. Pector, 9 rue Lincoln, Paris.

AN INTERESTING PHOTOGRAPH.

Mr. J. W. Newson, Buchanan, Michigan, kindly sends us a print of a large willow tree alongside of which is standing a rather fine-looking old gentleman. Accompanying the photograph is the following newspaper clipping:

> The large willow tree that stands in front of the home of John Searls, on the Berrien road, north of Buchanan, has a little history connected with it that perhaps some of our readers are not familiar with. In 1837 Seth Sherwood walked from Cassopolis to this place and carried with him a small willow stick which he used as a cane. He settled on the place now owned by Charles Pears, and stuck his walking stick in the ground beside the road. The switch took root, and is now the mammoth tree that has become a landmark on this road. Mr. Alonzo Sherwood, his son, who has been visiting here the past week, gives this information and says that he took a sprout off the tree and set it out near Lake Michigan, and that it has now grown to be a large tree. Mr. A. Sherwood had his picture taken beside the tree, just north of town, last week, and will take it back to Nebraska to remind him of his boyhood days.

When you want a book on any special photographic subject apply to us, for we carry in stock every book published in England on photography. One hundred and fifty different titles.

THE PHOTO-BEACON CO., Chicago.

COPYING PHOTOGRAPHS.

FIRST PRIZE ARTICLE.

To be able to copy photographs is a desire that most every possessor of a camera has felt at one time or another, and to assist him, or her, to accomplish that desire is the purpose of the following article.

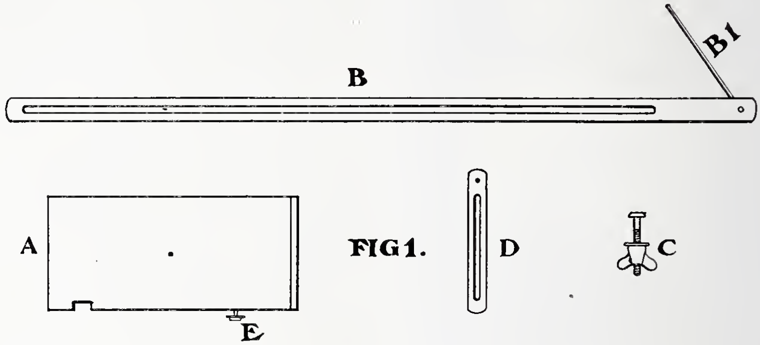


FIG 1.

Framed pictures that are not mounted on a very substantial support had better be copied by hanging them against the wall with a hook exactly in the center of the top of frame; but for copying all mounted photos, engravings, etc., the following device will answer perfectly.

Procure a piece of 1-inch board, A, Fig. 1, a little larger each way than bottom of your camera. Remove tripod screw from tripod head and insert a wood screw, with which fasten the board on to tripod head. Then get a strip, B, 2 by ½ inches and about 6 feet long, and also one, D, 2 by ½ by 12 inches. Get a bolt 1¾ inches long with a thumbscrew, C, and cut a slit in each strip as shown in diagram. Fasten a 12-inch rod in end of B; this is to hang the pictures on. See B1.

The board A should have a notch cut near one end so that when D is fastened in, it comes just flush with the edge.

Set up the tripod and fasten B with a screw and washer at E, so that it will slide back and forth easily. When completed it will look like Fig. 2. By loosening the thumbscrew C, the picture to be copied, G, can be raised or lowered, or carried closer or farther away while the operator is looking on the ground-glass. The picture hanging from the rod will always be in a perfectly upright position.

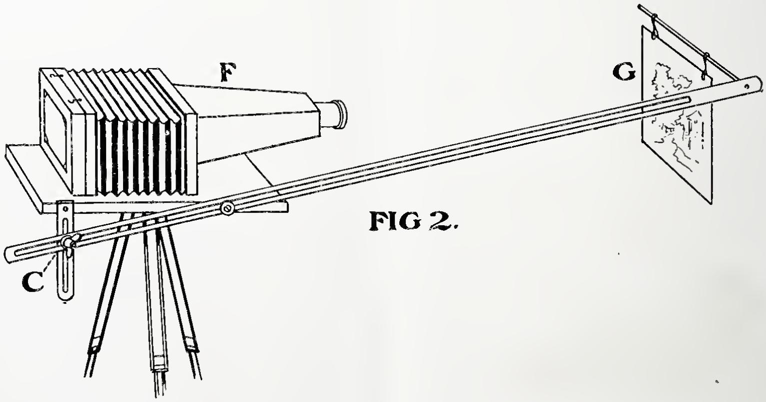


FIG 2.

It is better to put the strips on the left side of camera so that there will be no danger of jarring it in removing the cap from lens.

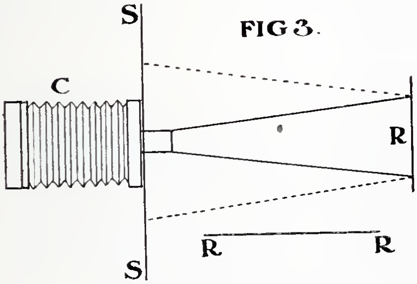
Unless the bellows of your camera are rather long, an extension cone like F will be needed, which can be made of light boards so as to be absolutely light-tight, or a copying lens used. There is one advertised in the August number of THE PHOTO-BEACON for $1.50.

If the copy is to be larger than the original, the distance from ground-glass to the lens will be greater than from lens to subject; if it is to be smaller it will be vice versa.

Being now ready to copy, select a place with the source of illumination directly behind the camera, as it insures an equal lighting and also prevents the grain of the paper showing so much. I prefer to work with my back to a large window.

Glazed photographs are best to copy, as the grain of the paper does not show as much as the rough photos do. Black and white photos require less exposure than the sepia or brown-toned ones. In copying yellow photos it is best to use an isochromatic plate, but for general work most any of the standard plates will yield good results. In copying framed, glass-covered pictures, or probably an old daguerreotype—anything in fact that causes reflection, it is best to use a dark-colored screen in front of camera, leaving a hole for the lens to protrude. See illustration, Fig. 3.

FIG 3.



The screen S S should be at least four times the size of the picture to be copied. The straight lines show view of lens, and dotted lines show the reflections. R R is a white reflector to even up the illumination, placed low enough so as not to be included in reflection of picture. Fixed this way, you get a copy free from reflection every time.

In case any part of the original is not wanted in the copy it can be vignetted out in the following manner: Take a piece of stiff white or black (whichever will look better in the finished print) paper, cut a little larger each way than the position to be shaded. This must be kept in a steady motion all the time of the exposure, right in front of the parts to be vignetted. A small stop should be used to increase the length of exposure.

Very pleasing effects are made by putting several small photos on one card with a scroll or vines to twine around them; the whole thing is then copied. Some very pretty Christmas cards are made in this way. Another pleasing effect is to put the subject behind an embossed mat. I have seen photos with a mat of delicate flowers around them; if this is attempted a very small diaphragm should be used to bring everything into focus.

Portraits on maple leaves look well, and can be made by exposing a portrait with a black background for about the proper length of time, when the lens is covered and the leaf exposed in front of a black cloth at exactly the same place the portrait occupied; if done properly the portrait will be in the leaf.

Distorted photos of buildings, etc., can be corrected in copying. When lines run in at top, the bottom of photo should be placed farther from lens than the top, and when they run in at bottom of photo the top should be farther away.

Barrel-shape distortion can be remedied with a single lens by turning the lens so that the stop is inside of the camera, which will cause curved lines to appear straight.

Always use daylight if possible when copying. Use the plate you like best, your pet developer, and a saturated solution of brains. With these, copying will be a very pleasant and profitable pastime.

FRANK C. ELLIOTT,
220½ East First street,
Los Angeles, California.

The Photo-Beacon Exposure Tables are worth their weight in gold.
GEO. T. TODD,
U. S. Weather Bureau.

FORMALIN VERSUS ALUM.

Your *ex cathedrâ* remarks on the subject of formalin in last week's issue were very opportune, coming as they did simultaneously with the first spell of really hot weather we have had this summer, and without doubt they will convey a useful hint to many who will find themselves in trouble. Perhaps a few additional words on the subject of formalin as a substitute for alum, in which capacity I have used it now for some time, may not be amiss.

I may commence by saying that for ordinary negative purposes I have long relinquished the use of alum except under very abnormal or trying conditions, partly because, as a rule, the plates now issued do not require it, even though their makers may recommend its use as a possible safeguard against frilling and softening of the film. But even when, as at the present time, some hardening agent is desirable, alum brings with it so many other troubles that, in extreme circumstances, I doubt whether it is any use at all. I read somewhere or other a short time ago a statement to the effect that "more negatives are spoiled by alum than by any other cause"; and, though I should scarcely like to commit myself to a full agreement with that expression, I am free to admit that there is some suspicion of truth in it. However, on the question of its application to negatives I shall have a few words to say further on.

If the opinion I have just quoted had been expressed with regard to the use of alum in conjunction with gelatino-chloride prints, then I should have been quite ready to agree with it to the fullest extent, for I believe I have already more than once publicly stated that gelatin papers have no more dangerous and insidious foe; and it is in this connection that I have for many months past entirely substituted formalin for alum, with, I think, the greatest advantage. I say this because, whereas formerly, despite every care in treatment, it was no unusual thing to find gelatin prints developing yellow patches within a few weeks of their being

Negative by G. Williams, Chicago.

AT JACKSON PARK.

finished, I have not met with a single instance of the sort since I adopted formalin, and this although the circumstances attending its use would certainly be in favor of instability if formalin possessed the same dangerous properties as alum.

Negative by B. J. Reynolds, Decorah, Iowa.

MARGIE.

It is not necessary to enter into the reasons why a hardening agent is desirable with gelatin printing-out paper and not with negatives, as they are sufficiently obvious. Suffice it that with the soft and practically perfectly soluble positive film, the use of alum does materially facilitate the later manipulation of washing, drying, and mounting, and it possibly does no harm if the prints are well washed both before and after its use. But there is just the difficulty. During the washing, before its application, if it be sufficient to thoroughly remove the hyposulphites, the principal part of the mischief is done, at least in such weather as prevails at the time I write, for the tender film becomes still softer and more rotten, and by the time the hardening bath is applied it is almost too late to do any good. If, on the other hand, the alum be used when the earliest signs of danger are evident, and before the hypo is removed, or if it be purposely applied as an eliminator, then the seeds of inevitable decay are sown, and the life of prints so treated may be surely reckoned as very short. Further than this, even though the preliminary washing be efficiently performed, unless the alum be thoroughly removed by an almost equally prolonged washing, a scarcely better result is to be anticipated.

But with formalin there is no such necessity for careful or prolonged washing before or after its application. So far as I can see, it exercises no chemical action on the silver salts in the print, nor on the hypo, and may apparently be used immediately the print is taken from the fixing bath. Simply for the sake of experiment, I have actually transferred a print direct from the hypo, without washing, into the formalin solution, and after ten minutes' immersion it has been washed and finished in the ordinary way, and now, after some weeks, shows not the slightest sign of change. I am pretty certain that the same would not be the case with alum.

Although for various reasons I do not

adopt that plan in the ordinary course of work, I am glad to avail myself of the good offices of formalin at the earliest possible moment. Accordingly, when the prints leave the hypo bath they are quickly washed in two or three changes of water to remove the bulk of the hypo, and are then placed, in two or three minutes' time, in the formalin solution, and there left to soak for from ten to twenty minutes. The strength of the solution is not very material, except so far as it affects the time of action ; I use one ounce of the commercial formalin in twenty ounces of water, using it fresh every time. For economy's sake I use the smallest quantity possible, well wetting each print as it goes in, and leaving them to soak in pretty close contact, turning them over perhaps two or three times during the immersion.

Every one who has used gelatino-chloride paper knows too well the slippery, rotten feel of the surface in hot weather, especially when the sulphocyanide toning bath has been used ; but this disappears almost instantly in the formalin solution, giving place to the firm, leathery touch that marks the alumed print. How short an application is really effective I can not say ; but, as no harm appears to come from prolonging it, I prefer to give sufficient.

There is another advantage formalin presents over alum. In order to meet the softening action of the sulphocyanide bath, some of the papermakers recommend the use of alum before toning ; but, unless it be thoroughly removed — and this is no easy matter — before the prints go into the toning bath, the action of the latter is very irregular. With formalin no such difficulty presents itself, and sulphocyanide may be used in the hottest weather with as much comfort, so far as the physical character of the gelatin film is concerned, as if it were the "combined" bath.

Turning to negatives. Before your remarks of last week were in print I had been experiencing trouble with a batch of rapid plates, of a brand I use regularly, that were developed and washed in the evening, and which had scarcely commenced to show signs of drying next morning. Even soaking in spirit made no impression on them, for, after they had become surface-dry, the gelatin seemed as thick and swelled and full of water as before. I went to the extent even of giving one or two of them a dose of absolute alcohol, and, even after that treatment, one of them, placed in the sun to dry, partially melted — an occurrence I never previously remember.

I had three more of the same plates still to develop, and these, after fixing, were rinsed well under the tap, and then placed at once into the five per cent formalin solution for ten minutes, and finally washed in the usual manner. As a result they dried as usual in a perfectly normal manner, where the others, when they did dry, were marked all over with incipient "fits," as if partly decomposed.

I think, therefore, it will be agreed that formalin offers decided advantages over alum, inasmuch as while it is equally or more effective as a hardening agent, it can be applied at an earlier, or indeed at any stage of the manipulations without injury to the print or negative. It thus acts not only as a remedy for softening of the gelatin, but as a preventive, by checking it before it has time to start ; and, whereas alum is very difficult to remove from the gelatin film when it once gets into it, the formalin is gone as soon as the "greasiness" (to borrow a term from the old collodion days) has disappeared, though even if not thoroughly removed by washing, its volatile nature would insure its removal on drying.—*British Journal of Photography.*

W. B. Bolton.

DYES, STAINS, INKS, LACQUERS, VARNISHES AND POLISHES.

A mine of information on how to make and how to use them will be found in the fourth number of "Useful Arts and Handicrafts." Price, 25 cents. Every book is plain and practical. Published by The Photo-Beacon Company.

MY GREATEST PHOTOGRAPHIC MISTAKE.

SECOND PRIZE ARTICLE.

Not having had a great deal of experience in photography, and always proceeding very carefully (so I thought), I have not made many *great* mistakes. However, I will write of my greatest.

I had taken a 5 by 7 picture of the family and of friends whom we had not seen for many years and probably will not see for many more. They were all naturally interested in the result and I went to my darkroom to develop. The negative was fine. While it was washing I told those interested relatives of the result. They, with me, heartily rejoiced in my good luck and I, being "hard up," said I had raised my prices and would charge 35 cents for each picture. They called me bad names but finally agreed to the terms. They wanted those pictures.

I went to my darkroom, and as I had read of drying by alcohol, thought I would try it. I soaked the negative in alcohol. I had observed that a little heat helped to dry negatives. I thought a great deal would help more. I put the negative on a shelf above a burning gas-jet and departed for the upper regions to tell my astonished friends I would have some pictures finished in a short time. (I use Velox. It is quick and I wanted those 35 cents quick.)

Sitting on the porch cooling myself after my hurried labors, time passed quickly. In about three-quarters of an hour I went to my darkroom, and exultingly took down my negative. Horrors! Did I see straight? Nothing was there! I glanced at the shelf. I saw a little dark puddle. The moral is — obvious.

Marshall S. Walker,

398 Madison avenue, Grand Rapids, Michigan.

Negative by C. M. Whitney, Westminster, Mass.

THIRD PRIZE.

HINTS FOR BEGINNERS.

HOW TO MAKE AN ENLARGED NEGATIVE.

The first essential for an enlarged negative is a small positive, and this can be made by contact in the ordinary way, using for preference an ordinary dry plate, not a transparency plate, and the exposure should be fairly full, and the resultant transparency should have more the character of a negative than an ordinary lantern slide — that is to say, there should be very little bare glass about it, but soft gradations and full detail, both in the high lights and shadows.

Another method of making this small transparency (and, although an old way, was mentioned the other day by Captain Abney at the Camera Club Conference) is to soak a celluloid film as used for ordinary negative work, the thin soluble film being specially suitable, in

Potassium bichromate.....	1 ounce
Liquid ammonia..........	10 drops
Water....................	20 ounces

for three minutes, then allow to dry in the dark. This is then printed under a negative with the celluloid next to the film of the negative, the exposure being exactly as for carbon tissue, or till the image is visible of a brown color on the yellow ground of the film. It should then be developed with hot water till all the unaffected gelatin is washed off, and then, by merely soaking in cold water for five minutes, and afterward in a five per cent solution of alum, we shall have a transparency reversed as regards right and left, with the image formed of bromide of silver, which can be developed by any developer giving an image of metallic silver. This is an extremely easy method of preparing reversed transparencies, or if, of course, we print from a positive in the first case, we shall have a reversed negative.

To enlarge, it is necessary to have some sort of enlarging camera. If it is desired to use daylight, an aperture of the required size should be cut in the window of the darkroom and the transparency supported by lantern-slide binding strips or a carrier. Inside the darkroom, on a box or bench, should be placed the ordinary camera, with the lens pointing into the room, and opposite the lens should be placed a drawing board or large printing frame, on which, in the former case, should be supported by drawing pins a sheet of ground glass the exact size of the enlarged negative that is to be made. The rough side of the glass must be next the lens.

The relative distances between the transparency and lens, and lens and ground glass, can be found by the rule so often given, but which will once again bear repeating. Divide the longer base of enlargement by longer base of negative, add one and multiply by the focus of the lens. This will give the distance between the lens and sensitive paper or plate. Divide this distance by the number of times of enlargement and the result will be the distance between lens and negative. Suppose, for instance, we want to enlarge from quarter plate to 12 by 10, using a 5-inch lens :

$12 \div 4\frac{1}{2} = \frac{48}{17}$ the times of enlargement.
$(\frac{48}{17} + 1) \times 5 = 19\frac{2}{19}$ inches.
$19\frac{2}{19} \div \frac{48}{17} = 6\frac{3}{4}$ inches.

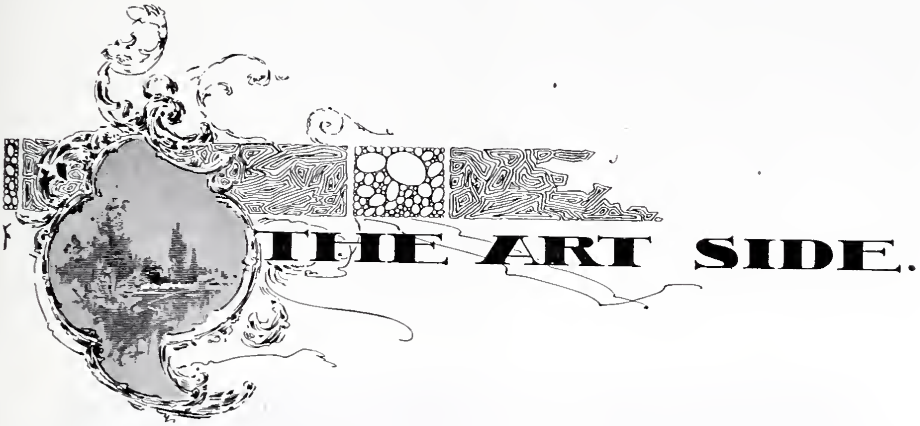
For enlarged negatives the most suitable plate is a fairly rapid one, not the extreme rapidity. Unfortunately, but little guide can be given as to exposure ; but as a quarter plate of the same brand and rapidity as the large plate can be obtained for a penny, it is just as well to expose a quarter plate on some portion of the subject which is fairly typical — that is, containing a high light, half-tones and a deep shadow — and, by covering the quarter plate with strips so as to give four exposures, doubling it every time and starting with five seconds, one can on development gain a very good idea as to the required exposure to produce a soft, well-exposed negative, full of gradation and detail.

E. J. WALL, F.R.P.S.

FOCUSING CLOTHS.

A very good plan when using small cameras—i.e., quarter and half-plate sizes—for work on a tripod in the field, is to run a hem along the front edge of the focusing cloth and insert a stout black tape, so that it can be drawn and fastened around the lens mount. It will thus better exclude light, and will not be so much blown about when focusing. There is no need of the heavy and close velvet cloths so often used, which stick to the cap and shoulders when focusing; a black cotton material is quite as good, and takes up much less space in the bag. For seaside work, and in stormy weather, a piece of waterproof cloth, used as described above, is a great protection to the camera.

R. W. K. G.



THE ART SIDE.

ART FOR PHOTOGRAPHERS.

"Art" is a word of very wide significance. There are few expressions more difficult of precise definition, but the term "fine art" suggests that it deals with the higher part of man's nature. How can one define "feeling" and "emotion"? We all know, however, what is meant by these terms.

When we look at a fine picture, or listen to grand music, we are all more or less moved, we can not tell exactly why. In a picture it is not the mere workmanship we admire, for a poorly painted picture will sometimes touch the chords of our sympathies or "feelings" more readily than another actually much better from a technical point of view. We listen perfectly unmoved to an air played in a faultless way, while an air played by a street musician will touch us immediately. It is not the association of ideas, for we may never have heard either of them before. Why, then, this difference? Only this, that in the one case the artist or composer had the fine art faculty and was able to produce emotional results out of proportion to the apparent means; the other, gifted with all the powers of education, lacked this faculty. In thinking out and executing a picture, the artist first sees and feels the effect he would convey; secondly, his fine art suggests his conception for the picture; and, thirdly, his art or craft enables him to put his conception into shape; in short, his picture is the sum total of his sensations so far as he can convey them, and the extent to which he can convey them is the extent of his fine art faculty plus his art faculty.

The naturalist and historian represent objects as they find them, with all those imperfections and blemishes to which as individuals they are subject; an ideal artist, and such alone is a true artist, resembles the poet; his creative fancy sees above common nature, and he represents objects endowed with all that perfection which belongs to the species, but which is rarely found in the individual. Therefore, symmetry or proportion should receive our careful attention. Nature, which in the formation of every species seems to have aimed at the last degree of perfection, does not appear to have been equally solicitous of individuals. Parts of individuals are frequently as beautiful as possible, but a complete whole is never to be met with.

In the conception of a picture, all the little circumstances should be contrived in such a manner that they should strike the spectator no more than they did you in the conception of the story. There must be a principal object which should receive the principal mass of light; and though a second and third group may be added, and a second and third mass of light, yet they should be all kept so subordinate that they do not come into competition with the principal. Design or composition is the foremost difficulty we have to encounter. In the arrangement of our composition we, of course, take into consideration the constructive value of our picture, or whatever art work it may be, and if we are photographing from nature, we ofttimes find ourselves at a loss as to how to introduce or dispose of the objects before us, with which we are wishful to form our conception or composition. We are apt to move about from place to place with the idea of blocking out little things which we think are likely to obtrude, and we endeavor to see other little things and effects we imagine will be of more service to our work; but frequently throughout all this maneuvering we are ignorant of the constructive quality for which we should aim. If we knew how to balance one object with another, or understood how each ray of light brought about its corresponding shadow, considerable time would be saved and better work done.

FRIENDS.

In the design or composition of a picture, simplicity is of the first importance; the story should be distinctly told, and nothing should be introduced but what is absolutely necessary. The one great point in simplicity is that it prevents confusion; it gives to each figure or object a position; there is no stepping out of place and jumbling together, as we too often see in photographs where simplicity has been overlooked. This feature bears directly on photography in several ways — first, in the subject itself; again, in the use of backgrounds; again, in the quality of light and shade, and further still, in the arrangement of light and shadow. The old-fashioned photograph invariably suffered from the hardness of tone, as well as exaggeration in the light and shadows, and generally it failed to do more than remotely suggest what it attempted to represent, and, even now, many of the photographs we see representing living persons are so stiff and generally uninteresting as to leave much to be desired. Your inventive faculty should have free scope; but never let it exceed the bounds of probability.

You should study the works of artists,

learn what subjects they have painted and how they have treated them. A student unacquainted with the attempts of former adventurers is always apt to overrate his own abilities. On whom can he rely and who shall show him the path that leads to excellence? The answer is obvious; those great masters who have traveled the same road with success are the most likely to conduct others. The works of those who have stood the test of ages have a claim to respect and veneration to which no modern can pretend. The duration and stability of their fame is sufficient to evince that it has not been suspended upon the slender thread of fashion and caprice, but bound to the human heart by every tie of sympathetic approbation. But though these masters should be studied, they should not be servilely followed. The student, instead of treading in their footsteps, should only keep the same road and endeavor to possess himself of their spirit.

A. Geekie.

THE LANTERN.

PRACTICAL LANTERN TIPS.

FOR THE LIME-LIGHTIST.

1. Do not make your own gas on the score of economy — dioxide of manganese and chlorate of potash are more expensive than Brin's or any other maker's oxygen. It stands about thus: Cost of $MnO_2 + KClO_3 +$ apparatus $+$ time $+$ labor $= 20 \times$ cost of commercial O.

2. Do not use gas bags without ample, very ample, experience; even then the cylinder deserves prior consideration.

3. Do not take your cylinder into the exhibition room without cover-bag or box — the supersensitive individual must be respected.

4. Do not hang your gas tubes near people's heads; conceal them (the former, of course) as much as possible.

5. Do not place your lamp on a shaky pedestal; a tripod may be good; a fair-sized, firm table is better.

6. Do not put your limes loosely in a tin can on the top shelf of a "dry" cupboard and expect to find them perfectly solid when you want them again; the composition of which limes are made is peculiarly hygroscopic, and you will probably find vapor in your "dry" cupboard.

7. Do not have to prepare your apparatus fifteen minutes before lecture time; you should have tested with your sample slides by that time.

8. Do not fail to clean your lenses before showing, or vapor will stealthily creep on your condenser and obscure your first dozen pictures and ruffle *you* at the outset.

9. Do not fail to fasten firmly with string or a screw clipper your india-rubber tubes to your jet tubes; it will make you awfully "happy" to have your oxygen tube blown off when the lecture is nicely under way.

10. Do not have the side door of your lantern open to "reduce excessive heat"; to a visitor the side glow of a lime-light is terribly obtrusive when one wants to see the picture on the screen.

11. Do not erect your screen anyhow; it should have no creases, no middle seams, and its plane should be parallel with that of the condenser.

12. Do not attempt half-a-dozen things at once; your duty is to suit your light to the slides; therefore study well to do this, and respectfully brush away any intruder.

"Grapho."

LARGE DIRECT PORTRAITURE.

At one of the recent meetings of the Photographic Club, when reference was made to some large direct portraits on plates 16 by 20 by Mr. Witcomb, of Buenos Ayres, a remark was made that there was a greater difficulty in getting orders for large direct work than there was in executing it. Mr. Snowden Ward, in reply, said that in the United States large direct photographs were much favored. We know also that there is a considerable business done in them on the continent — France, Germany and elsewhere. Seeing that large direct portraiture is so much in favor, alike in the States, on the continent, and in the Argentine, and we are told by opticians, and also by dealers in secondhand apparatus, that the majority of the large lenses for portraiture they sell are for export, and not for home use, it will be well to inquire why this is the case.

It must be admitted that a *good* large direct portrait—up to a certain size—has a delicacy and charm about it that is not possessed by an enlargement. Perhaps one reason why there is so little demand for this class of portrait here is that English photographers do not make such a feature of them as do their *confrères* abroad. Another reason, and probably a greater one, is that, when a feature has been made of them here, they have not been so pleasing in character as are those of the smaller sizes, owing to the violence of the perspective, caused by the camera being brought too close to the sitter through the use of lenses of too short foci, a thing studiously avoided in the States and on the continent. This subject has frequently been dealt with in our back volumes. Many photographers here make the mistake of using lenses on the full-size plates they will cover; although they do this with the larger sizes, they do not do so with the smaller ones, or, at least, to the same extent. For example, the most general lens for cabinets, the size of which is 4 by 5½ inches, is one of from 11 to 12 inches equivalent focus, and when used for this size the perspective is pleasing, and this very largely conduced to the popularity of the cabinet picture; but, as most are aware, a good lens of that focus will cover a much larger plate when moderately stopped down.

The late Mr. J. H. Dallmeyer laid it down as a rule, some thirty years ago, that the equivalent focus of a lens should be at least double the longest dimensions of the plate upon which it is used, and that has never been controverted. The famous portraits by M. Adam Salomon, which created such a *furore* in the "sixties," were about 8 by 10 inches, for example, and were all taken with a lens of 20 inches focus. Now what applies in the case of small pictures applies also, and in a greater degree, to large ones.

Keeping these facts in mind, we will now see how opticians catalogue their large lenses. We have now before us the catalogues of our two leading opticians, Ross and Dallmeyer. In each of those are quoted lenses, suitable for portraiture, in three series; the portrait combination; the "D" group or universal; and the rapid rectilinear or symmetrical of almost, in each list, identical foci, and to cover similar size plates. We will quote from the latter catalogue, because in it the equivalent focus of the portrait lens is given, while in the other the back focus only is mentioned. We find there a portrait lens of 30 inches focus, a "D," or group lens, of 30½ inches, and a rapid rectilinear of 30 inches focus, so that, practically, the three lenses are of identical foci. The first-named is catalogued to cover 16 by 20, the second 16 by 18 to 20 by 22, and the third similar sizes, and the reputations of the two makers are sufficient to guarantee that they will cover the sizes stated; but should photographers use them for the full-size plates?

Bearing in mind what has been said with regard to the smaller sizes, say the cabinet, neither of these lenses should be employed for plates larger than 12 by 15 if we wish to obtain pleasing results, so far as perspective is concerned, and it may be mentioned that is about the size, we find upon inquiry, they are used for abroad, where large direct portraits find favor with the public. When used for sizes of half the focal length of the lens, the camera is placed at a considerable distance from the sitter, and a pleasing perspective is obtained. When, however, the lens is used for the larger size it is capable of covering, the camera has to be approached very close indeed to the subject, perhaps to within 6 or 8 feet, with the result of violent and unpleasant, though still true, perspective, the foremost portions of the features and figure appearing to be distorted.

Negative by C. A. Richardson, Lebanon, N. H.

THE OLD SWIMMING HOLE.

Our older readers will remember that, some five-and-twenty years ago, the late Mr. Crawshay, with the laudable intention of encouraging large direct portraiture—though he was ill-advised in the matter — offered some very handsome prizes: fifty pounds for the best life-size portrait taken direct, and twenty-five pounds for the second best, and other prizes for smaller sizes. They will also remember, when the portraits were shown, the comments that were made upon them by the press generally, and the terms used with regard to them being such as "monstrosities," "caricature," "hideous," etc. This was not to be wondered at, when it is considered that to produce a life-size portrait the lens must be at the same distance from the sitter that it is from the focusing screen of the camera. Now, we believe that the lenses mostly used for these portraits were about 36 inches focus, hence it will be seen that the camera had to be brought to within 6 feet of the sitter, therefore there was little to surprise at the terms applied to the result.

The object here has been to point out that the reason why direct portraiture finds so little favor here is that many who have essayed it have made the mistake of using lenses on plates the full size that opticians make them to cover. In doing that, the camera has to be placed very close to the sitter, thus getting very unpleasant results; whereas, if it were placed, say, 15 or 20 feet away, the same pleasing picture, as cabinets are, would be obtained. We intended to have said something on the most suitable lenses for large direct portraiture, but that must be deferred till a future occasion.—*British Journal of Photography.*

THE DARKROOM

LOCAL DEVELOPMENT.

It is unnecessary to dwell upon the advantages of local development, but it may be as well to summarize the cases in which it may be resorted to before explaining the method by which it can be safely carried out. In the case of negatives it is employed for the purpose of bringing out detail in under-exposed portions of the image. A negative in which the shadows are under-exposed may, however, be either normally or over exposed in the lights; and while in the former case it is only necessary to force up the shadows, in the latter the lights must be at the same time held back. The early stages of over-exposure are the only ones likely to be met with in conjunction with under-exposure, excepting with very abnormal subjects, and so we must be prepared for either excessive density and halation or moderate density and general fog around the high lights.

In the case of positives (lantern slides or bromide prints) defects in the negative are, or should be, as far as possible compensated for by dodging in the printing — that is, by screening some portions of the subject or concentrating the light on others. It is, however, almost impossible, excepting with a printing-out process, to produce exactly the effect required by these methods alone, so they must be supplemented by local development. In such a case we have to deal with unequal or irregular exposure, one portion of the subject being under-exposed relatively to the other, though no part is seriously under or over exposed. The application of local development is very easy in such cases, and its advantages very great, but the system of development must be modified to produce black or gray tones, or to produce an image that will be amenable to a uranium or other toning bath.

It is, of course, necessary to determine with certainty the actual state of the exposure before applying any local treatment, and there is, perhaps, no more certain or safer method than the following: In the case of a negative, apply a normal developer, and the moment the higher lights begin to appear pour off the developer and fill up the dish with plain water, flowing it carefully but quickly over the plate in exactly the same way as a developer. If dealing with a positive, proceed in the same way, but *do not wait for the appearance of the image,* rock the dish gently three or four times, and then substitute the water for the developer. Now put the dish down and watch the progress of events. The image will, as a rule, appear very quickly, so it is necessary to watch it closely. If the various tones of the image appear in steady succession, from the highest down to the lowest, and not too rapidly, there is nothing wrong; the water should then be quickly

PORTRAIT STUDY.

poured off and development continued in the ordinary way. If under-exposure exists, its effects will be very apparent and its locality obvious. If the highest tones appear almost simultaneously, but the lowest ones fail to put in an appearance, local under and over exposure are both indicated. General over-exposure will be shown by the almost instantaneous appearance of the whole image, and in such a case local development is of no use.

If local under-exposure is indicated, take a large, soft camel's-hair brush, dip it in the developer, and paint over the under-exposed part of the image, *while it is still under water.* If no effect is produced by a repeated application, strengthen the developer and try again. If there is any image capable of development it can be brought out in this way, failure simply meaning that exposure has produced no effect. The under-exposed portion of the image must be brought up by brush treatment only, until as a whole the image looks satisfactory. At this stage the developed image, though in appearance it may be fairly dense, is really so slight that it will almost disappear in a fixing bath, and much greater density must be obtained before fixing is possible. This extra density may be obtained by reapplying the developer in the ordinary way, by working up the whole of the image with the brush, or by intensification. If the high lights have shown any indication of over-exposure we must avoid too much density, and also beware of developing the halation which lies at the bottom of the film. The best course, then, is to obtain as much density as we can safely attempt by the brush treatment and finish with intensification. If over-exposure does not exist, and we finish by development, a little more brushwork will be necessary in the shadows, for otherwise they will not gain sufficient density. Local development should, in fact, be continued until the image appears flat by reason of the over development of the shadows; the necessary contrast will then be gained in the after-development, which has a much greater effect in the lights than in the shadows.

After-development is absolutely necessary with positives if black tones are aimed at. Gray tones can be obtained by finishing with the brush only or by applying a weak after-developer. Black tones cannot be obtained safely if the print is in any part over-exposed. It is best in such a case to be content with gray tones and afterward either intensify or tone the image.

There is not the slightest risk of producing stains or brush-marks so long as the brush is only employed under water, and the water does not appreciably hinder the effect of the developer when thus applied; it even in many cases appears to accelerate it. If the image is finished by brush treatment only, it may show traces of unequal density. It is, therefore, best to finish by applying a developer, modified, if necessary, to the whole image. The intensification referred to as necessary in the case of local over-exposure may be carried out by applying a powerful redeveloper containing a large proportion of a citrate.—*The Amateur Photographer.*

C. WELBORNE PIPER.

A HOME-MADE DARKROOM WINDOW.

A pane of ordinary window glass was coated on one side with a solution of gelatin covered with erythrosin. The colored gelatin was allowed to run on the glass as evenly as possible and dried. The erythrosin absorbs all the green rays, but permits the violet rays to pass through. It is therefore necessary to coat the opposite side of the glass with gelatin, colored with orange G, which absorbs the blue and violet light. The gelatin surfaces were coated with varnish to protect them, and the glass thus prepared forms an excellent light for developing plates by the daylight.—*Journal of Applied Microscopy.*

RUE D. FISH.

THE PRINTING ROOM

A GOOD MOUNTANT OR PHOTO PASTE.

THIRD PRIZE ARTICLE.

What is the use of bothering with pastemaking every time a few prints are to be mounted, when equally as good an article can be nearly as quickly prepared in large quantities and with good keeping qualities? If prepared after the following recipe it will keep for at least a year, and is ready for use at any time. It is made as follows:

Take 1¾ ounces of best arrowroot, and 80 grains of gelatin, or finest glue ground; put the arrowroot in a small pan; add 1 ounce of water, or more if necessary, to form a thick cream; mix thoroughly with a spoon till it is entirely free from lumps; then add sufficient water to make 15 ounces in all. Now add the gelatin or the glue in small pieces. Put it over a fire and boil for four or five minutes, stirring constantly; set it aside till nearly cold, then add 1 ounce of alcohol and 6 drops of pure carbolic acid. Add the alcohol slowly, stirring rapidly all the time. Fill small, self-sealing jars, or other wide-mouthed bottles, and cork tightly. When wanted for use, take out a sufficient quantity in a dish; work it up nicely with the brush, adding a little water if too thick, and you will have a material as smooth as cream, and which will not decompose. If only a print or two is to be mounted, the paste can be worked up in the bottle by putting a few drops of water in and working up the top part, leaving the paste in the bottom of the bottle undisturbed.

The recipe is old, but the paste is good, and equal to any paste you can buy ready prepared.

Respectfully submitted in · Literary Competition No. 5, by JAMES SLACK.

New Knoxville, Ohio, July 11, 1899.

PAPER AND MOUNTS.

Paper is a material that a photographer is constantly handling and employing for one purpose or another, and yet it is safe to say that, as a rule, he troubles himself comparatively little about its character and purity. Perhaps this arises from the fact that, in most cases, he buys his printing papers ready made, and, consequently, regards the quality of the paper as a matter that he can leave to the manufacturer.

WHEN PURITY IS OF IMPORTANCE.

This is, we admit, not unreasonable, though there are good grounds for supposing that otherwise inexplicable printing failures may be due to defects in the paper, or in the substratum that has been applied to it. When, however, it is desired to work the plain paper process of silver printing, the gum-bichromate process, or any other process in which the photographer has to do his own sensitizing, the character and purity of the paper become a matter of the first importance, and this is true also of carbon printing and photogravure. Further, it is becoming a rather common practice to use paper, instead of cards, for mounting prints on, and in this case also the purity of the paper is an important matter.

So far as cards for mounting are concerned, it is very generally recognized that freedom from any hypo (sodium thiosulphate) that may have been used as an antichlor in the process of manufacture is essential if the prints are to remain unaltered, but little attention has been given to the possible presence of other impurities that may exert a similarly injurious action. Since card is, after all, only a thick variety of paper, or an agglomeration of several sheets of paper, what we have to say will apply equally to paper and cards.

Negative by A. Hennen, Harrisville, Ky.

GONE FISHING.

HYPO NOT THE ONLY IMPURITY.

Paper consists mainly of fibers of cellulose matted or felted together to form a thin but continuous sheet. Usually a certain amount of mineral matter in the form of gypsum (calcium sulphate), or kaolin (hydrated aluminum silicate), has been added, and, as a rule, the paper has been sized with either a vegetable or animal size. The size may have been applied to the paper while it was in the form of pulp, in which case the whole body of the paper will be impregnated with the sizing material, or the dried sheet of paper may have been dipped into the size, in which case the size is confined mainly to the surfaces of the paper.

Animal size is usually gelatin with a little alum to make it insoluble after drying, and this mode of sizing has the important advantage that the size is not destroyed by exposure to air and light; it may decompose if the paper is stored in a damp place.

Vegetable size generally consists of a resin soap, also mixed with alum, or some other aluminum compound. It is open to two rather serious objections — in the first place, unless the resin has been carefully purified, the size contains substances that have somewhat powerful reducing properties, and hence sensitized paper prepared from paper with this kind of size may be very deficient in keeping qualities, owing to the action of the size on the silver salts; in the second place, it appears from the experiments of Liesegang and others that vegetable size is rapidly destroyed when the paper is exposed to light, and if this happens before the paper is coated it leaves the paper much too porous, while if it happens after the paper has been used, the decomposition of the size may involve changes in the print. Starch is not subject to alteration in this way, and it follows that a gelatin or a starch size is far preferable to a resin size.

The materials now used for making paper and card are linen rags, cotton rags, esparto grass, wood pulp and wood cellulose, straw, hemp and jute. Flax and cotton are sometimes worked up into paper without being previously converted into fabrics. In all cases where a natural material is used, it has to undergo chemical and mechanical treatment for the purpose of separating the cellulose fiber from attached structures, and removing encrusting materials, resins, and the like. The purity of the paper depends on the completeness with which this operation is performed. What is required in a photographic paper is (1) reasonable hardness and tenacity, (2) freedom from any substances that can affect the sensitive material or the finished print, and (3) freedom from any material that will make it discolor, or otherwise alter when exposed to light and air. To what extent it must be absorbent or nonabsorbent depends on the purpose for which it is required, a certain amount of absorptive power and a completely matt surface being required, for example, for certain photo-mechanical printing processes.

Paper prepared exclusively from linen is the purest and strongest; paper containing cotton may be quite as pure, but will not be so strong, and is usually more porous, so that a certain amount of cotton is frequently used for photo-mechanical papers. If properly made, either kind of paper will remain white after long exposure to light, and will also retain its strength.

CHARACTERISTICS OF ESPARTO PAPER.

Esparto grass paper is, when well made, soft and strong, and does not contain reducing substances, but is usually liable to slight discoloration when exposed to air. If such paper is boiled with a solution of aniline sulphate, it acquires a rose-pink color, and this is a convenient method of recognizing it. Since, however, paper containing straw cellulose acquires under the same conditions a similar, though paler, color, the test is not conclusive, and microscopic examination is necessary. Perhaps the most characteristic point about esparto paper is the presence among the fibers of a considerable number of slender hairs. The aniline sulphate test alone will, however, prove the *absence* of esparto.

WOOD IN PAPER.

Wood is employed in papermaking in two forms, which differ considerably. One is known as "mechanical wood pulp," and is prepared from the wood by mechanical means; its presence would make a paper unsuitable for photographic purposes. The other is known as wood cellulose, and is a very much purer product, obtained by heating the pulp under pressure with caustic soda solution, or a solution of calcium or sodium bisulphite. When properly made it is quite white, but paper made from it is liable to become yellowish on exposure to light.

Sufficient information concerning the mechanical properties of a paper can generally be obtained by comparatively simple means. The way in which it behaves when creased and bent backward and forward, and the ease or otherwise with which it tears, give indications as to its strength, while methods of testing its hardness are obvious. To compare the breaking strain of different papers in a simple way, strips of the same size are cut, and are suspended vertically by means of wooden clips, similar clips with scale pans being attached to the lower ends. Weights are placed in the scale pan without jerking until the strip of paper breaks.

Negative by D. H. Swiler, Harrisburg, Pa.

OFF THE INLET.

SIMPLE TESTS FOR THE PURITY OF PAPER.

One of the simplest tests of the purity of paper or card is to expose it to light; only the purest papers will remain unaltered, while others will acquire a color more or less dark, according to its degree of purity. You can see this very well with a piece of ordinary newspaper; some of them go quite brown. Any paper containing wood pulp will darken when exposed to light, and will at the same time lose much of its strength, and become more or less brittle. Several chemical tests have been recommended for the detection of wood pulp. Here are some of the simplest: A solutiun of naphthylamine in hydrochloric acid gives an orange-red color; an alcoholic solution of resorcin mixed with hydrochloric acid gives a blue-violet color after a short time; a solution of one part of diphenylamine in fifty parts of alcohol and five parts of sulphuric acid gives an orange color, especially on drying, and this reaction is said to be very sensitive.

Wood pulp, while unlike wood cellulose, can not be used for the manufacture of white paper, but it is very likely to be found in tinted cards, especially if they are of Continental origin, and it is also often present in tinted papers, which would, so far as their surface and color are concerned, be very suitable for mounting prints on. It is common in mounts the body of which is yellowish-white with a surface of tinted paper pasted on to it.

Now, the evil of wood pulp lies in the fact that not only does it change and darken itself, but in so doing it initiates changes in other bodies with which it is in contact. If, for example, you examine pieces of newspaper that have altered by exposure to light, you will not unfrequently find that even the printer's ink has been affected, and if such paper has been printed on with colored inks, the alteration will probably be more distinct. The moral obviously is that paper and mounts containing wood pulp are unsuitable for photographic purposes. On the other hand, so far as mounts are concerned, we are at present without any evidence that would justify the rejection of mounts properly made from esparto, wood cellulose or straw cellulose.—*Photography.*

C. H. Bothamley,
F.I.C., F.C.S., F.R.P.S.

LETTERS TO THE EDITOR.

Mardin, Turkey,
September 25, 1899.

Dear Sirs,—The first two numbers of the Photo-Beacon (July and August) came to hand a few days ago in as perfect condition as when they left your office, notwithstanding they had traveled a third of the way around the globe, and the last few hundred miles in saddle-bags. This was owing to the careful and substantial way in which they were wrapped. They were much enjoyed, and I hope the remaining numbers will come in as good condition.

Sincerely,
H. D. Thom.

Editor of The Photo-Beacon:

Go to, F. Dundas, with your branches of trees, with and without leaves! It isn't so easy as you might think, unless you are photographing a house and don't want them anyway, and then they are not generally so very artistic.

Did I not go mooning around Chautauqua last winter looking for a branch without leaves, only to be told through The Photo-Beacon that I thought "Any old branch good enough"?

All the artistic branches grow on top, or where one can not photograph them, and we are not allowed to trim trees without permission.

Next time give us something easy like a dog, or a cat, or even pigs might do (see inclosed prints).

I am glad you are enjoying Scotland; bring home some good ideas for us poor stay-at-homes. Respectfully,

Marie Antoinette Daniels,
Box 255, Chautauqua, New York.

Church Hill, August 26, 1899.

Editor of The Photo-Beacon, *Chicago, Ill.:*

Dear Sir,—Thinking that it might be of interest to some of the readers of The Photo-Beacon, I will give you a little experience I have had in using the camera and the Photo-Beacon Exposure Tables. The instrument of which I speak is Professor Pickering's Speed Tester for Photographic Shutters.

I have been trying to use the Photo-Beacon Exposure Tables for some time, but did not succeed very well, and soon came to the conclusion that the fault was with the camera. I never seemed to over-expose, and made up my mind that the shutter was faster than marked. I had been trying to study out some way to get the correct time, but did not come to any solution of the problem until, while at Boston a short time ago, I found a tester for the speed of shutters, which consists of a silvered glass pendulum and a diagram in black divided by white lines into sections denoting $\frac{1}{50}$ second, the pendulum swinging across the whole width of the diagram in one second. You set the shutter at any mark that you wish to find the correct time of, expose your plate, and, while the pendulum is swinging exactly from one end to the other, snap your shutter; upon developing the plate a white line will be seen showing the length the pendulum swung while the shutter was working, which gives the correct time. Since finding that my shutter gave an exposure of $\frac{21}{50}$ second when set at the 1 mark, and $\frac{11}{50}$ second when set at the ½-second mark, and so on, I have had no trouble with the exposure tables, and consider them a necessity. I think that if any one has had any trouble with the exposure tables, it has been because he did not know the correct speed of his shutters. Yours respectfully,

CHARLES O. STONE.

Editor of THE PHOTO-BEACON, *Chicago, Ill.:*

DEAR SIR,—The liberty is taken of enclosing the following for your consideration in case same should be a matter of news to you:

During the entire period of the Paris Exposition of 1900 professional and amateur photographers will be afforded every facility to operate their cameras. Upon the payment of 50 centimes (10 American cents) per camera, a certificate will be issued that will permit negatives to be taken of practically everything except private exhibits; for these, special permission will be necessary.

Respectfully yours,
A. S. CAPEHART,
Director of Liberal Arts and
Chemical Industries.

TORONTO CAMERA CLUB.

FORUM BUILDING, YONGE STREET.

October 11, 1899.

Editor of THE PHOTO-BEACON:

DEAR SIR,—Would you kindly notice in the November number that the ninth annual exhibition of the Toronto Camera Club will be held December 5 to 9 inclusive? In open classes, gold, silver and bronze medals will be awarded to the first, second and third best pictures respectively. Silver and bronze medals will also be awarded for enlargements and lantern slides. Full particulars can be obtained from John J. Woolnough, secretary, 94 McPherson avenue, Toronto, Canada.

Negative by W. J. Lennon, Quincy, Mich.

AMMONIUM CARBONATE IN DEVELOPING SLIDES.

For about the last twenty years developers with ammonium carbonate have been in use for obtaining warm tones, first with collodio-bromide and later with gelatino-bromide plates for lantern slides, and quite recently with the new gaslight-developing papers. So far as we can trace we have not had any statement that the tones thus obtained were anything but permanent.

A note has, however, recently appeared on this subject, which states that the warm tones obtained by the use of this salt are not permanent. A question on the subject has been addressed to us, and we have taken some little trouble to find out as to how far the statement is true. Having some old collodion slides, developed with pyro and ammonium carbonate about fifteen years ago, we hunted them up and unbound one, and found that the portion unprotected by the mask shows not the slightest sign of fading. Some gelatin slides made six years ago also are, so far as one can judge, equally as good as when made.

In 1889 we were making experiments to obtain warm tones on bromide paper by means of an hydroquinone developer with ammonium carbonate, and we managed to rake our proof prints out of the archives, and find that they, too, show no sign of fading or discoloration, except that the paper support is slightly yellowed. Old workers who have used this salt for developing also state that they have not found any trace of evanescence.

Personally, we can not see why, from a chemical point of view, the use of ammonium carbonate should give a deposit that is not permanent. We should at least like to see the equation that represents the chemical decomposition of the latent image, and an analysis of the silver image which proves this statement. Certainly, in the case of one of our gelatin slides, we have found, by dissolving out the silver, that nothing but pure gelatin is left behind; there is no trace of an organic stain which might cause a change of color.

Possibly many may have seen the statement to which we refer, and have felt a qualm about using this salt for warm tones. We think, however, they may go on without fear, for we think it is, as regards correctness, about as reliable as the same writer's statement that "ammonium carbonate is in itself very deliquescent," which is just what it is not. It is very liable to efflorescence, which is just the antithesis of deliquescence.—*The Photographic News.*

Several single numbers of The Photo-Beacon have been worth more to me than the year's cost, and I expect to continue taking it so long as it continues under its present able management.

Yours very truly,
Topeka, Kansas. H. L. Whiting.

Mr. C. D. Kirkland, formerly president of Kirkland's Lithium Paper Company, has severed his connection with the company, having sold his entire interest to the General Aristo Company, of Rochester, New York.

EDITORIAL TABLE.

The Multiscope & Film Company, Burlington, Wisconsin, send us a copy of their latest catalogue, containing particulars of the "Al-Vista" Panoramic Camera, and specimens of its work, which are certainly very good.

The Blair Camera Company, Rochester, announces the placing on the market of a new camera, "The Weno Hawkeye," which seems to be compact and very light. It takes film — capacity twelve exposures — and is listed at the popular price of $5. The company has just introduced "The Hawkeye Tripod," which is made of straight-grain spruce. It is threefold in character, and sells for $2.

From Ross & Co., 111 New Bond street, London, W., we are favored with quite a lot of catalogues. The largest is the Supplement for 1899, the most interesting feature of which is the announcement of a new lens, called the "Ross Symmetric Anastigmats." The prices appear to be very moderate. The telescope catalogue contains particulars of a new binocular, the title of which is the "Ross Patent Prismatic Binocular." We had the pleasure of trying this instrument while in London, and thought very highly of it.

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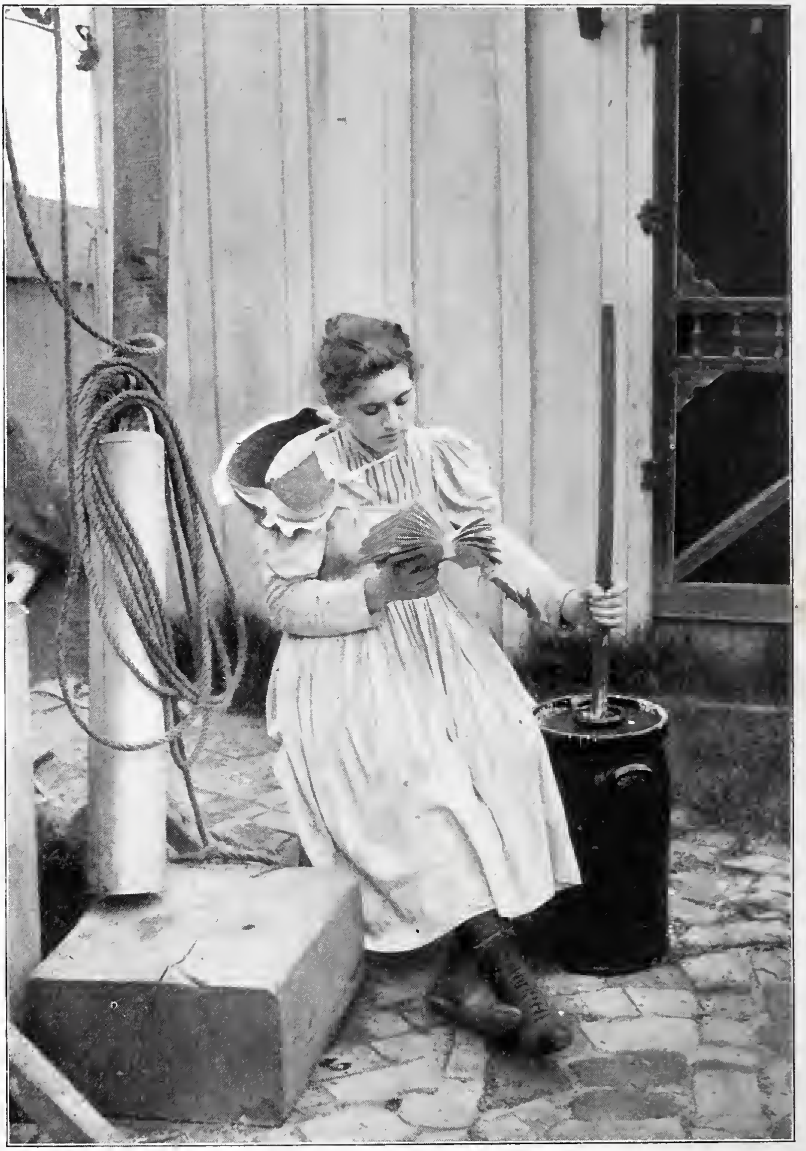


Negative by L. E. Offut. Memphis, Tenn.

IS BUTTER COMING?

(First Prize.)

THE

PHOTO-BEACON.

EDITED BY F. DUNDAS TODD.

VOL. XI. DECEMBER, 1899. NO. 12.

OURSELVES.

In the past it has been our custom to say a few words about ourselves in the last number of the volume. This issue completes Volume Eleven, and so we will trespass as in former years on the patience of our readers for a few moments.

We feel that most of them will be glad to hear that this has been the most successful year of the history of THE PHOTO-BEACON. The circulation has practically doubled during the year and this we know is due in no small measure to the kindness of its readers who have been good enough to say a good word for it. The books we published have also gone better than in the previous year, and we have now reached the proud position of turning out every year over one hundred thousand pieces of printed matter giving instruction in the art of photography. We think this is a record that stands first in this hemisphere.

During the year we have simply adhered to our old rule of teaching, trying to tell our readers how to do things in the clearest way. The same policy will be continued in the future and toward that end we have a few changes that we might briefly outline.

In the first place we have arranged with one of the best artistic amateur photographers of England and at the same time one of the most practical writers to provide our readers with a series of twelve articles on "Artistic Landscape Photography." We have done a pretty big work in the past in educating our professional workers on the mighty problems of lighting and posing, and now feel it is about time to show them and our amateur readers how the same principles can be applied in landscape work.

Our competition articles have proved so thoroughly successful, because so practical, that we have decided to extend their scope considerably. We are delighted to find so many really good writers among our readers and wish to give full scope to their faculties by withdrawing all restrictions on subjects. So during 1900 we will offer $5 in cash for the best article we receive during the month, and $2.50 for all other articles accepted.

In the picture competitions we propose varying them somewhat by alternating practical competition with those that are purely pictorial. Other changes for improving the appearance of the journal are in progress and we expect will be completed before the issue of the next number. As usual we will appear in a new dress at the beginning of the year and hope to receive some racy letters from the critical readers. For the brightest we offer a prize of $5.

With this number there ends a very large number of subscriptions and we would remind our readers that prompt renewal is essential if they wish to make certain of getting every number of 1900. We guarantee our advertisers an absolutely paid-up-to-date circulation and so every reader who fails to renew promptly is dropped from the list at once.

To one and all we wish a merry Christmas and a happy new year.

PHOTOGRAMS OF '97 AND '98.

We have a few copies of the above left on hand. Will close them out at half price, 25 cents. Instant application should be made to avoid disappointment.

FIFTEENTH PICTURE COMPETITION.

This competition brought out a capital selection of pictures, and the judges had quite an interesting time locating the prize-winners. Ultimately they were awarded as follows :

First prize — L. E. Offut, Memphis, Tennessee.

Second prize — Otto Holstein, Detroit, Michigan.

Third prize — Chester W. Whitney, Westminster, Massachusetts.

Along with these we publish quite a series of the runners up, and think our picture gallery this month is about as interesting a collection as we have ever had.

PICTORIAL COMPETITIONS FOR 1900.

Competition No. 21.—River scenery. Closes January 31.

Competition No. 22.—Intensification. Closes February 28.

Competition No. 23.—Snow pictures. Closes March 31.

Competition No. 24.—Local intensification. Closes April 30.

Competition No. 25. — Pictures of children under seven years of age ; not necessarily portraits. Closes May 31.

Competition No. 26. — Reduction. Closes June 30.

Competition No. 27. — Flower pictures. Closes July 31.

Competition No. 28. — Local reduction. Closes August 31.

Competition No. 29.—Genre pictures, or pictures that tell a story. Closes September 30.

Competition No. 30.—Reducing excessive contrasts in a negative. Closes October 31.

Competition No. 31. — Landscapes. Closes November 30.

Competition No. 32.—Ray-filter pictures. Closes December 31.

RULES.

1. In the purely pictorial competitions, Nos. 21, 23, 25, 27, 29 and 31, there is no restriction as to the number of pictures to be sent in. On the print there should be written the title and the sender's name and address, but nothing else. Accompanying, a letter or post-card should be sent us, giving full particulars of date, light, plate, stop and exposure given, also the printing process.

2. In the technical competitions, there should be sent, first, a print from the negative before work is begun upon it ; second, another print showing the effect of the operations. Along with these should be sent a very brief description of the course of procedure.

NOTE.—Methods of performing the various operations are to be found fully described in Part II of "The Reference Book of Practical Photography." In No. 32, ray-filter competition, send one print made with ordinary plate, and one on color-sensitive plate with color screen.

3. Mark outside of package with number of competition. Ordinary letter rate must be paid where descriptive matter accompanies prints.

PRIZES.

First.—Books to the value of $5.
Second.—Books to the value of $2.50.
Third.—Books to the value of $1.
To be selected from our catalogue.

LITERARY COMPETITIONS FOR 1900.

For the best practical article received on or before the fifteenth day of each month we offer a prize of $5 cash.

For all other articles accepted we will pay $2.50 cash.

RULES.

1. Write on one side of the paper only.

2. Be brief, sending less than one thousand words, if possible.

3. Never mind style — use the smallest words you know.

4. If a drawing will make points clearer, send it. Don't worry if it be rather crude ; we will put that right.

5. Write your name and address at the end of the article.

6. Mark the envelope "Literary Competition."

7. Preference given to practical articles, that is, those that tell "how to do things."

LITERARY COMPETITION NO. 8.

The editor read the papers in this competition no less than three times, and was unable to come to a decision. At length he called in a good practical man on plans, who is also a first-rate amateur photographer, for advice. Up to the moment of going to press, no decision had been arrived at, but it will be announced in January issue. The papers are very excellent, indeed.

TAKING THE BABY.

Scene: Photographer's studio.

Time: During the reign of the stamp fad.

ACT I.

Enter Mother and Baby.

PHOTOGRAPHER. Howdydo.

MOTHER. Howdydo. I wanted to git this little man's pitcher taken. He's one year old today, and we've never had him taken yet.

PHO. Yes'm. Pritty baby! Wat's oo name?

BABY (*turning away*). A-a-a-a-a-

MOTHER. Tell the man your name is Dewey Sampson Hobson Johnson.

PHO. What style of portrait did you wish, Mrs. Johnson?

MOTHER. Well, how much are these small photographs?

PHO. Twenty for a quarter, taken four different ways.

MOTHER. Well, I'll take twenty, then.

PHO. All right. Just step in this way, please, and you can fix the baby on that chair while I take a peep through the machine. All ready? Hello, baby! Dewey! Dewey! Looky, looky! Looky this way! (*Whistles.*) Hoo-wee, hoo-wee-hoo-wee-hoo-wee!

MOTHER. Look at the man, Dewey; see what the man's a doin'. (Baby clings to Mother's dress.) Oh, look at de pity pitcher! (Hands baby a photograph and gets away.)

PHO. Now! Now! Looky here! Whoo-oopy, whoopy, whoopy! (*Baby looks up, but squirms just as exposure is made.*)

PHO. Try again. Now! Whoo-oopy, whoopy, whoopy! Looky here now! (*Toots a tin horn.*)

Negative by Otto Holstein, Detroit.

IN TROUBLE.

(SECOND PRIZE.)

BABY. Wa — a-ank-hank-hank-ha-a-ank! Wa-ha-ha-ank!

MOTHER. Aw, ain't that too bad! Baby's so sweet all day long, and then had to get sour just when him's a gitten him's itty pitcher tooken. Yes him did!

PHO. Now just looky here now. (*Twirling musical doll.*) Tingalinky tummytinky tummytinky tummytinky! Whoo-oopy, whoopy whoopy whoop!

MOTHER. Wher-r-'s papa?

(*Baby stares for a moment like a blank idiot.*)

PHO. (*triumphantly.*) That's the time we caught him! That's the time he stood as still as a little man! Now let's turn around this way. (*Approaches the sitter.*)

BABY (*tutta forza*). Ow! Wow-wow-wow!!

MOTHER. Why-why-why! Manny wouldn't hurt mamma's little precious darling! No, him nice manny. That's a little sweetheart.

PHO. Oh, looky here! Now we've

got it. Just listen at this. (*Blows whistling rooster.*) Sree, sree-sree-sree!

MOTHER. See de pity birdie! Hear de birdie?

PHO. Sree! Sree-sree-sree! Ting-aling, ping, ting! Tampety tamp, tampety tamp, tampety tamp, tamp, tamp!

(*Holds rooster in his teeth, whirls doll with one hand, clutches bulb in the other, and dances a jig. Baby sits transfixed, mouth open, eyes bulging, while view No. 3 is taken.*)

PHO. Now, once more and we'll let him go.

MOTHER. I would like to have one with him smiling. Baby, baby! Papa's coming!

PHO. Laugh, baby! Ha-ha-ha! O, whoopy, whoopy! He-he-he-haw-haw-haw!

MOTHER. Laugh a itty for de gemman like a little sweetheart.

PHO. Come, come! Scree, sree-sree-sree! Ping, tingy lip ting pingy wing! Tootle-tootle! Haw-haw-he-he-he! Whoo-oopy! Whoopy!

(*Baby loses patience and sets up a vociferous remonstrance.*)

MOTHER. Why-why! What an ugly face! What would papa think if he'd see his little man a looken like that? I believe I'll just have him that way and let papa see what a naughty boy he's been on his birfday. See, the man's a goin' to take Dewey's pitcher wiv dat ugly face!

PHO. That's all.

MOTHER. Now den, we'll do dit some canny. Naughty man to scare Dewey so! (*To the photographer.*) When can I git them?

PHO. It'll be three or four days.

MOTHER. I hope they'll be good.

PHO. I hope so.

MOTHER. Good day.

PHO. Good day.

(*Exeunt.*)

JOHN C. MAHIN.

Box 982, Riverside, California.

You can make artistic picture frames for a few cents by following the instructions given in "Picture Frames by Novel Methods," one of the "Useful Arts and Handicrafts" series. Price, 25 cents. Published by The Photo-Beacon Company.

PRACTICAL STEREOGRAPHY.

Here in the West one often hears the expression, "Times are dull in this town. We are suffering from the effects of a boom." Most Western towns have their boom, and suffer for it afterward. Some are called to life and live by and for their boom, and die when the boom fails. Others that have something more substantial to back them suffer awhile from its effects, then slowly recover and show a steady growth thereafter.

The stereoscope and stereoscopic photograph are at the present day in just the position of the last mentioned town.

A good many years ago the stereoscope had its boom. Then the little hand instrument with a collection of views could be found on almost every parlor table. When the reaction came, the views were lost or destroyed and the stereoscope thrown into a dark corner of the garret, where it lay neglected until a few years ago, when stereoscopy began to show signs of revival. Since then its history has been one of steady growth in popular favor. Yet, for some reason, up to the present time comparatively few amateur photographers have undertaken the making of stereoscopic pictures.

It is hard to understand why this pleasing branch of photography is so neglected. It can not be because of the difficulty attached to it, for to one who has a knowledge of photography the taking of stereographs is a simple matter. Neither can it be a lack of appreciation of the finished results, for there is no other method that can approach the stereograph for life-like reproduction of pictures.

The first stereograph I ever attempted to make was by mounting side by side two prints from one negative. I was puzzled at my failure to secure the desired stereoscopic effect, but found on investigation that I had fallen into the common error (to the uninitiated) of thinking that a stereograph was formed by two similar pictures, when in reality it is made up of two different pictures, or rather two pictures of the same object from different points of view. The principle of stereoscopy can be readily seen in a moment by studying Fig. 1. The drawings that make up this figure are quite unlike and they represent nothing recognizable. But when they are separated by a piece of cardboard or paper, held edgewise so that each eye sees but one of the drawings, they will gradually melt into one figure that looks likes neither, but gives a true "stereoscopic effect."

The philosophy of the matter is simple. With each eye we see a different picture, and these pictures are combined in the brain to make a third which is unlike either. This third picture is what we seem to see.

In stereography the lenses of the camera take the place of the eyes and record two different pictures, which we are able, by the aid of the stereoscope, to combine into the third.

The ideal stereoscopic camera is one of the folding hand instruments mounting a pair of matched rapid rectilinear lenses, of five-inch focus. Such instruments are provided with a partition, which really makes two separate cameras.

Negative by Chester W. Whitney, Westminster, Mass.

FEEDING THE DUCKS.

(THIRD PRIZE.)

For photographing objects in motion a camera with twin lenses is absolutely necessary; but when the subject is stationary a stereograph can be readily made with the ordinary single camera by simply making two exposures from slightly different points of view. Any one possessing a camera that can be used on a tripod is equipped to make stereoscopic pictures of a great many subjects. A handy little arrangement to slide the camera the proper distance can be easily made by almost anybody. The one I have can be carried in the pocket when not in use. It is easily attached to the camera and weighs but a few ounces. It is simply a hardwood board 6 inches long by 3½ inches wide, and ¾ inch thick. Through the center of this board is cut a slit ¼-inch wide and 4 inches long. A mortise 5 inches long by ¾ inch wide is cut into one side of this board, so that the slit is in the center. That is, ¼ inch at each side and ½ inch at each end of the slit the wood is cut away to a depth of ⅜ inch. A glance at Fig. 2 will make my meaning plain.

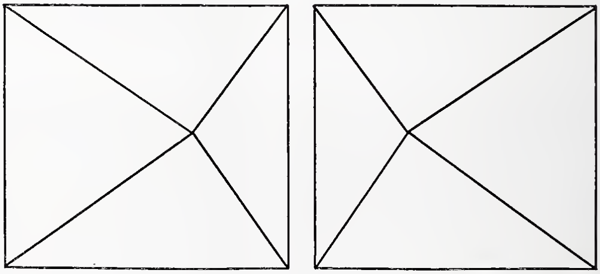


FIG. 1.

A ¼-inch hole is bored through this board an equal distance from each end and about 1 inch from one side. The ordinary tripod screw is replaced by a common metal screw that passes through this hole and fits into the tripod plate on the camera. The wood must be cut away a little so the head of this screw will sink down flush with the bottom of the board.

To attach this device to the tripod I use a small brass plate, 1 inch long by ¾ inch wide and ⅛ inch thick. In the center of this plate is a hole with threads to receive the regular tripod screw. The top of the board should have a piece of canton flannel or other soft cloth glued on to keep it from scratching the camera and to keep the latter from slipping.

Fig. 2 shows an end view of the device with part of the end cut away. The projecting screw fits into the tripod plate on the camera. In using this sliding arrangement the size of the camera is of no consequence; 4 by 5 is probably the most convenient size, but 3¼ by 4¼, or 3½ by 3½ will give a full-sized view, and if the pictures are smaller they can simply be mounted the necessary distance apart, while if larger they must be trimmed. In taking a stereograph by this method one has to simply slide the camera to one side as far as the slit in the board will permit. The first exposure is then made and the tripod screw loosened to allow the camera to slide to the other side about three inches. If the object to be photographed is near by 2½ inches is sufficient, and if at a greater

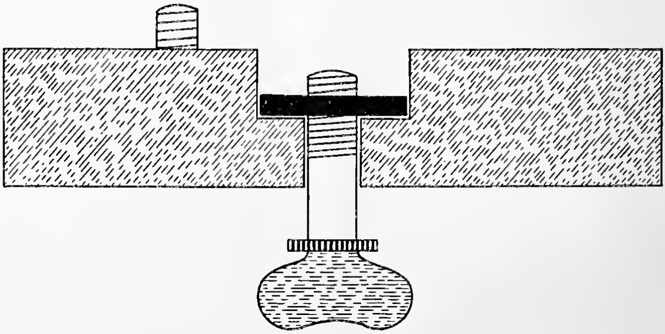
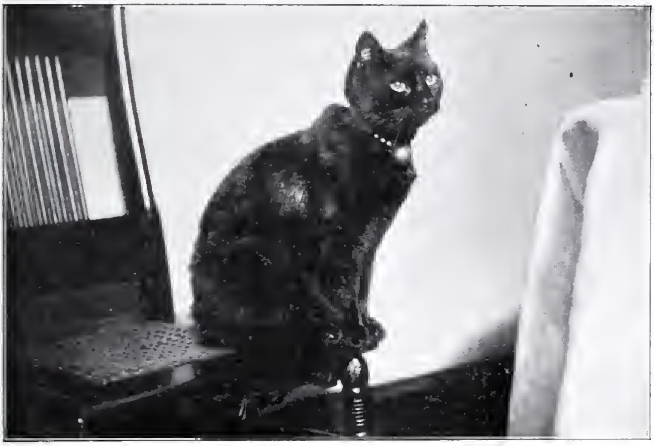
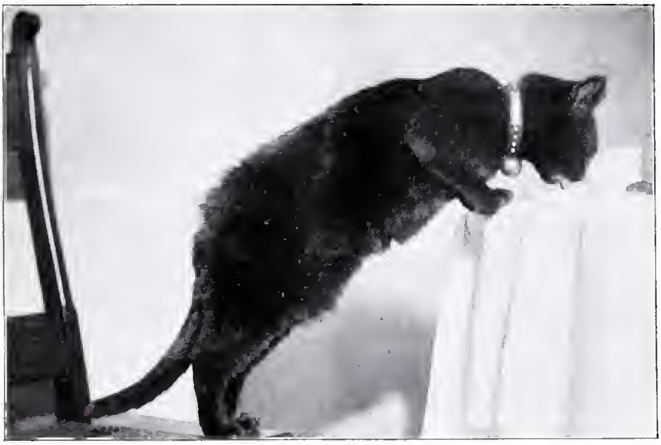


FIG. 2.

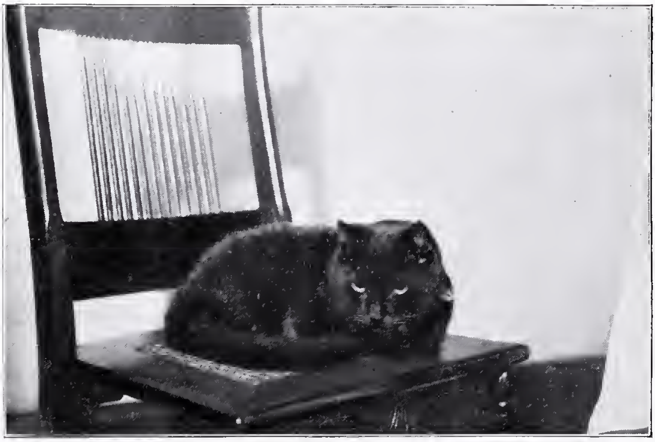


EXPECTATION.



REALIZATION.

Negatives by Frank E. Smith,
Germantown, Pa.



CONSUMMATION.

distance 4 inches is none too much. One must be careful to have each picture include the same view and to give each plate an equal exposure.

In these days of rapid plates and quick-acting shutters there is little difficulty about equal exposure; and the only condition under which the exposures need be varied is when flying clouds are constantly changing the light. Give full time, for negatives that have been slightly over-timed yield the best prints for the stereoscope.

With a regular stereoscopic camera and matched lenses one has only to see that the desired view is on each half of the ground glass and make the exposure as for single photographs.

The distance that should separate the lenses has always been disputed. Theoretically it should be equal to the separation of the eyes, but practically a slightly greater distance is better. I prefer a separation of three inches from center to center unless the lenses admit of changeable separation, in which case for a near-by object they should be closer together, and for a distant object farther apart.

The selection of subjects for the stereograph is, as in single photography, where one's artistic taste or lack of it is sure to be displayed. Flowers, trees, statuary, old ruins, picturesque buildings — in fact everything is suitable but subjects on one plane, such as open landscapes and long focus work in general. One thing, however, must be constantly borne in mind. Since it is principally the foreground that gives the plastic appearance to the stereograph, that part of the picture must receive careful attention. Little bits are usually better than a great expanse of subject; but with proper attention to foreground some very extensive views often make excellent stereographs.

There is one other thing that never fails to give interest to a stereograph. That is life. I do not mean pictures of rapidly moving objects, for they should be left to the expert, but stereographs of everyday life. Even the beginner need have no fear of undertaking street scenes; children at play, laborers at work, animals in motion or at rest — all are capital subjects.

There is never a parade in the streets of a city or town but dozens of hand cameras photograph it from every available point. And dozens of hand camera users are often disappointed with the results of their labor, for there is little of interest in a single photograph of such a scene. But treated stereoscopically it is different. You see life in the marching columns and the surging crowds that line the sidewalks. You can almost hear the music of the band and feel the jostling of the people at your elbow.

Another thing that is sure to interest one's friends and thereby repay one's self, is the reproduction (with the aid of living models) of famous paintings, groups of statuary, and tableaux from well-known operas and dramas. There is scarcely an amateur photographer who could not find among his friends a willing John Alden and Priscilla, Three Little Maids from School, or models for the "Spirit of '76." No one need hesitate to undertake this work because of their lack of slant-light studio and a $500-portrait lens. If you have never tried portraiture or have been unsuccessful with it, study that little book by F. Dundas Todd, "Amateur Portraiture at Home," and you will find plain sailing ahead.

In developing stereograph negatives, unless they have been properly timed, it must be borne in mind that great contrast is to be avoided. Chalk and smut effects will never do in the stereoscope. I generally use amidol, but amidol has its peculiarities and perhaps most of my readers will prefer to use their own favorite developer.

Stereographic printing is often quite perplexing to the beginner. It need not be, however, if one will carefully consider beforehand what is wanted and how the desired end is to be reached.

Gelatin paper, especially if burnished or finished with a glaze surface, is easily scratched. For this reason, if used at all, it should not be burnished, as stereographs are handled so much that it is but a short time before the glossy surface is covered with scratches and bruises. Aristo-Platino toned in the single platinum bath has given me most satisfactory results. This paper and bath is almost as easy to work as the gelatin paper and gives results so far superior that the difference in cost should not be considered for a moment.

If the negatives have been taken on one plate they must either be cut apart and transposed in the printing or the prints must be cut and transposed in the mounting. For the beginner who will be likely to print but a few copies from each negative the latter plan is to be recommended. The best method of procedure is probably as follows: Mark right and left on the back of the prints and cut them apart. Trim the bottom of the prints first and be sure that each is trimmed alike. I mean by that, the knife must cut through the same objects in each print. The prints are then laid in the position in which they are to be mounted and brought together until some object in the foreground of one picture is from 2¾ to 3 inches from the same object in the other, when they may be cut simultaneously an equal distance from the outside of each print. This gives prints trimmed on the bottom and inside, and the top and outside may be trimmed to suit. About three inches is the proper height, but a little more or less does not matter. The prints are then toned and mounted close together.

One sometimes sees stereographs that measure as much as three and a half inches from center to center, but it is too great a strain on the eyes to look at such pictures and nothing is to be gained by it. The distance should never exceed three inches.

Beautiful as a stereographic print is, it can not compare with a transparency of the same subject. I never make prints for my own use, though I sometimes make them for others. I can not go so far as to advise others to make only transparencies, but every one should try them, and they will be able to judge for themselves by comparing cost, labor and final result.

Negative by Mrs. C. E. Baldwin, San Francisco, Cal.

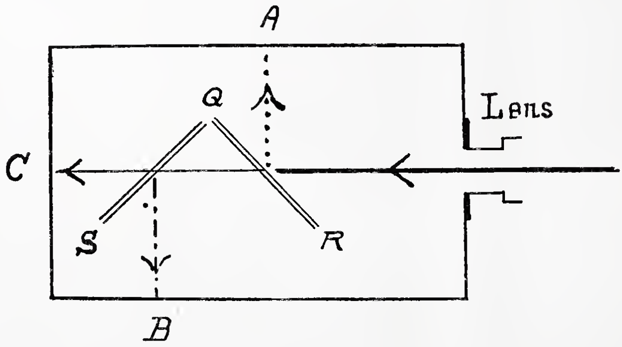
GO, GET IT.

In making transparencies it is best to cut the negatives apart and transpose them before printing. The usual method is to print them by contact on an ordinary dry plate, which, when finished, is covered by a thin plain glass and backed with a ground glass, the three plates being bound together with gummed paper similar to a lantern slide. Such transparencies have several drawbacks. They are heavy and easily broken, and the gummed paper with which they are bound soon wears out. By substituting celluloid film for plates the first two objections are overcome, and common black court plaster may be used for binding to get rid of the third. But films are even more expensive than glass plates, and expense is an important matter to most amateur photographers.

J. EDGAR ROSS.

THE LATEST ADVANCES IN COLOR PHOTOGRAPHY.

Every photographer is, or is supposed to be, interested in the production (by photographic means) of pictures in the colors of nature. Also every photographer knows, or ought to know, that Mr. Sanger Shepherd is one of the very foremost and successful workers in this direction. Therefore, it follows that a brief account of some of his recent advances are likely to interest our readers. And, be it said at the outset, that these advances are also simplifications, not only in the taking of the pictures, but also enables any ordinary optical lantern to be used for their projection on the screen.



But, in order to make the whole matter easily intelligible to those amateurs who have hitherto regarded this branch of work as too difficult or too costly, we will assume for the moment that our reader knows next to nothing of the subject. This will necessitate our taking some liberties with Mr. Sanger Shepherd's most admirable and instructive lecture before the Camera Club, on Thursday, October 5. And for certain digressions and omissions we crave his lenient pardon.

(1) If a beam of white light is passed through a prism, it is decomposed, as it were, and spread out into a rainbow-like band of colors, namely, violet, blue, green, yellow, orange, and red.

(2) When white light (i.e., daylight) falls upon any object, say a leaf, some of the components pass into the leaf, and are, for us, as lost; but the *remaining rays* are reflected back to our eye, and together they give us a sensation which we call green.

(3) Now experimentalists have shown that the colors of all natural objects may be exactly imitated by mixing other colors in proper proportions.

In fact, by taking red, green, and violet light of the proper kinds, and mixing them in various proportions, any color can be imitated. Thus, by mixing red and green light, we get yellow. Or by mixing green and violet, we get blue. Or by mixing all three, namely, red, green and violet, we get white light once more. It is upon this fact that color photography depends, and the point must be clearly grasped by the reader.

(4) If now we look at a natural scene through red glass, we get a red version of the scene, for our red glass or screen only permits red light to come to us. It is as though we had painted a picture in red and black — black being the absence of all light. If we view the same scene through green glass, we get a green and black version. Similarly with a violet screen or glass. But, if we could see all these three pictures together (N.B.— *not* the same as looking through three glasses put together), we should see natural color again.

(5) Now, here Mr. Shepherd comes to our aid with a camera which takes — with one lens and one camera at the same time — three pictures. One is

taken through a green, another through a violet, and the other through a red glass or color filter. The accompanying sketch will give some rough and general idea how this is done. We have a box-like camera, with lens at one end. Pieces of clear glass, QR, QS, are placed so that their edges meet at Q, and their planes are at right angles. Light passing through the lens in the direction shown by the arrow, first meets with the piece of flat, clear glass QR, and *part* of this light is reflected in the direction shown by the *dotted* line toward A. The remainder of the light passes through this first glass, and soon meets the second piece of glass, QS. Here, again, some of it is reflected in the direction shown by the broken line toward B; the remainder passes on toward C. Thus at A, B and C we may have three pictures, formed by the lens at one and the same moment. We can, therefore, take three negatives at once. One is taken through a red, another through a green, and the other through a violet screen. Of course, we require plates which are specially sensitized for the work.

Negatives by Mrs. D. H. Walzen, Jr., San Francisco.

JOHNNIE, FREDDIE AND THE LAMB.

(6) The negatives being developed, we now require positive prints—in color. We now take a piece of transparent celluloid, which has been coated with gelatin containing silver bromide. This is dipped in a bath of potassium bichromate, and dried in the dark. When dry, this is placed with its uncoated celluloid side in contact with the negative. Light passing through the clear parts of the negative has two actions. It slightly changes the color of the bichromated

coating on the film, so that the progress of printing can be watched; and, secondly, it renders the gelatin insoluble in warm water (carbon process workers will fully understand this point). After sufficient printing, the celluloid film is placed in warm water. This dissolves away the parts shielded from light by the opaque parts of the negative. The result is a positive relief in gelatin containing silver bromide. This is plunged into a hypo fixing bath, which dissolves out the silver bromide, and leaves us a gelatin relief picture in clear gelatin.

(7) We now must convert this positive relief picture in clear colorless gelatin into a suitably colored picture. This is easily done by immersing it in a bath of color in solution, which dyes or stains the gelatin. But what colors shall we use for this purpose? Oh, of course, stain the print from the red screen negative in red, and so on, says the reader. But this is just the point where he would go wrong.

(8) Let us consider a simple case, say, a green leaf against a white background. Let us take our three negatives through red, green and violet screens, and consider each one by itself for a moment.

(*a*) The red screen passes no green light from the leaf, therefore the leaf on the negative is *clear* glass. But the background (white) sends some red light through the screen, therefore this is opaque on the negative. The gelatin relief positive is the reverse of this, namely, a leaf in relief on clear celluloid ground.

(*b*) The green screen passes green from the leaf, and from the background also. Result on negative — opaque leaf on opaque ground; gelatin relief positive, clear celluloid.

(*c*) The violet screen may be compared with the red screen with a similar result. Hence the gelatin positive is a gelatin leaf on clear celluloid.

If now we stain the red screen positive (*a*) in the color complementary to the red screen, namely, stain it greenish blue, and stain the violet screen positive (*c*) in the yellow, the complementary color of the screen through which it was taken, and then put these two pictures in yellow and blue one on the top of the other, and look through them, we get a green leaf surrounded by clear celluloid.

It will now be seen why the color of the gelatin positive is *complementary* to the color of the screen through which its negative was taken.

Mr. Shepherd described a very ingenious system of colored diaphragms, whereby the proportions of red, green, blue, and so on could be adjusted at will. To enter at all adequately into these matters would probably try the patience of the reader. But enough has been said to show him that the recent advances in color photography have brought it now within the amateur's reasonable range.—*The Amateur Photographer*.

FOCAL LENGTH OF TELEPHOTO LENS.

A correspondent, signing himself "Novice," writes:

> Would Mr. Welborne Piper kindly give a worked-out example, such as, what is the equivalent focus of a telephoto combination composed of a doublet having an equivalent focus of thirteen inches and a negative lens of five inches focus? Separation, ten inches, measured from stop of doublet to center of negative lens. Also say from what point in the combination the equivalent focus is measured, a good bold diagram showing the ray paths through a telephoto combination.

To this Mr. Piper, at our request, kindly replies as follows:

In answer to "Novice," the equivalent focal length of the telephoto lens he describes is found by applying the formula $F = \frac{f f^1}{f^1 - f + d}$, in which f represents the focal length of the front or positive combination, f^1 that of the back or negative combination, and d the distance of separation.

From this formula

$$F = \frac{13 \times 5}{5 - 13 + 10} = \frac{65}{2} = 32\tfrac{1}{2} \text{ inches.}$$

The "back focus," or distance from negative combination to plate, is found from

$$BF = \frac{f^1 (f - d)}{f^1 - f + d} = \frac{5\ (13 - 10)}{5 - 13 + 10}$$
$$= 7\tfrac{1}{2} \text{ inches.}$$

Negatives by E. C. Sherburn, Charlestown, Mass.

THE SAILOR'S STORY.

NOTE.—The sailor is Jacob Hersey, second-class engineer, U. S. N. He ran the cable-cutting launch of the U. S. S. Marblehead, which did such good work on the Cuban coast during the Spanish war.

There is, therefore, a difference of twenty-five inches between the focal length and the so-called "back focus," and if from this distance we deduct the amount of separation, it is apparent that the node of emission, or point from which the focal length should be measured, is situated fifteen inches in front of the positive combination of the telephoto lens; see N2 in diagram. The distance of the other node, or node of admission, from the front lens is equal approximately to

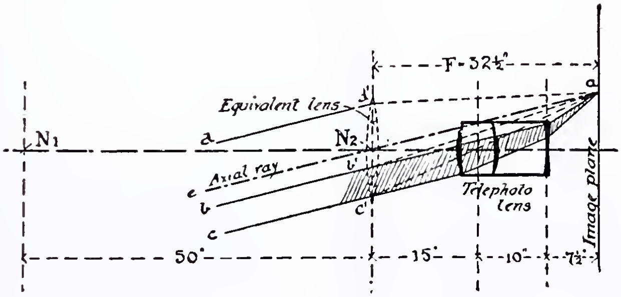
$$\frac{df}{f^1 - f + d} = \frac{130}{2} = 65 \text{ inches},$$

and the separation of the two nodes is approximately equal to

$$\frac{d^2}{f^1 - f + d} = 50 \text{ inches}.$$

Obviously, therefore, this node lies further beyond the node of emission, as shown in the diagram at N1.

Assuming this telephoto lens to be employed for the purpose of copying full size, the object would have to be at a distance of 2F = 65 inches from the node of admission, and the image plane would be 65 inches from the node of emission, the total distance between the object and image being 65 + 50 + 65 = 180 inches. The object would be 65 + 50 + 15 = 130 inches from the front positive lens, and the image 65 — 15 — 10 = 40 inches from the back negative lens.



A single lens strictly equivalent to the telephoto would have to be about 150 inches in thickness to copy full size with object and image separated by 180 inches, but if we consider only the action of the telephoto lens on an infinitely distant object, a thin lens of the same focal length, placed in the position of the node of emission, would practically produce the same image as the telephoto. Such an equivalent lens is shown dotted in the diagram at N2, and it will suffice for the purpose of explaining the approximate course of the rays.

Suppose, now, that a is the image of an infinitely distant point. The rays by which this image is formed will follow with the telephoto lens approximately the course shown by the full lines ba, ca, the space between which is shaded. Remove the telephoto lens and substitute the thin equivalent lens; the rays bb^1 and cc^1 then take the course shown by the thin dotted straight lines b^1a and c^1a, still arriving at the same image point a. These rays may be considered to be the outer rays of a wide pencil dd^1 ac^1c, the axial ray of which is represented by ea. The rays dd^1 and cc^1, being parallel, may be considered to meet the same infinitely distant point and to belong to one large pencil of light, a few outer rays of which are utilized by the telephoto lens, while the central rays are employed by the equivalent lens. With a pencil of less obliquity the central rays would be utilized by both lenses. It is rather difficult to clearly explain the comparative action of the telephoto lens and its equivalent, but I hope this attempt will meet "Novice's" requirements. — *The Amateur Photographer.*

C. Welborne Piper.

SENSITOL.

Regarding this new sensitizing solution the manufacturers, Haller-Kemper Company, say:

This preparation is a fluid — not an emulsion. All of its ingredients are soluble and so they remain until reduced by the action of light or by contact with some substance that acts as a chemical reducer. This property of fluidity makes it suitable for application to the various fabrics, paper, etc., with either a brush or a tuft of cotton, and its ready solubility in clear water renders the clearing up of the unexposed portions of a Sensitol print a very simple matter, so that a fabric may be sensitized with it in spots (providing, of course, that the fabric is perfectly clean) and a series of prints made on it without any trace of staining by the fluid.

Sensitol is acid and it is absolutely essential that all trace of the acidity be removed before a print is placed in a bath containing either gold or hypo. If an acid print is placed in a gold bath all of the details will be destroyed, and if it is placed in a solution of hypo, the hypo will be decomposed and the print bleached out by sulphurous acid gas.

The image produced on a surface prepared with Sensitol is a vigorous silver image and is, therefore, subject to the action of almost any of the toning processes that are recommended for silver prints, but we have obtained the most satisfactory results with sulphocyanide baths and with Tonplatinol — the latter being a new departure in platinum toning baths — a bath giving the vivid platinum black tones to the silver image in a single operation, and that, too, without the assistance of any metallic salt except chloroplatinite of potassium.

Prints on fabrics that have been treated with this latter bath seem to be indelible — frequent washing in hot soap suds not affecting them in the least — so that pictures that have become soiled can be made fresh and new again with the assistance of soap and hot water.

"Tolidol Talks," a pamphlet recently issued by the Haller-Kemper Company, of Chicago, devotes considerable space to Sensitol and its various uses and manipulations, and also gives a very complete resumé of the latest wrinkles in developing plates, films, papers, etc.

"Tolidol Talks" is issued for free distribution and will be found to be an invaluable addition to your photographic library.

Neg. by Wm. Marshall, Elgin, Ill.

MY TEA PARTY.

THE GREATEST PHOTOGRAPHIC MISTAKE I EVER MADE

(THIRD-PRIZE ARTICLE.)

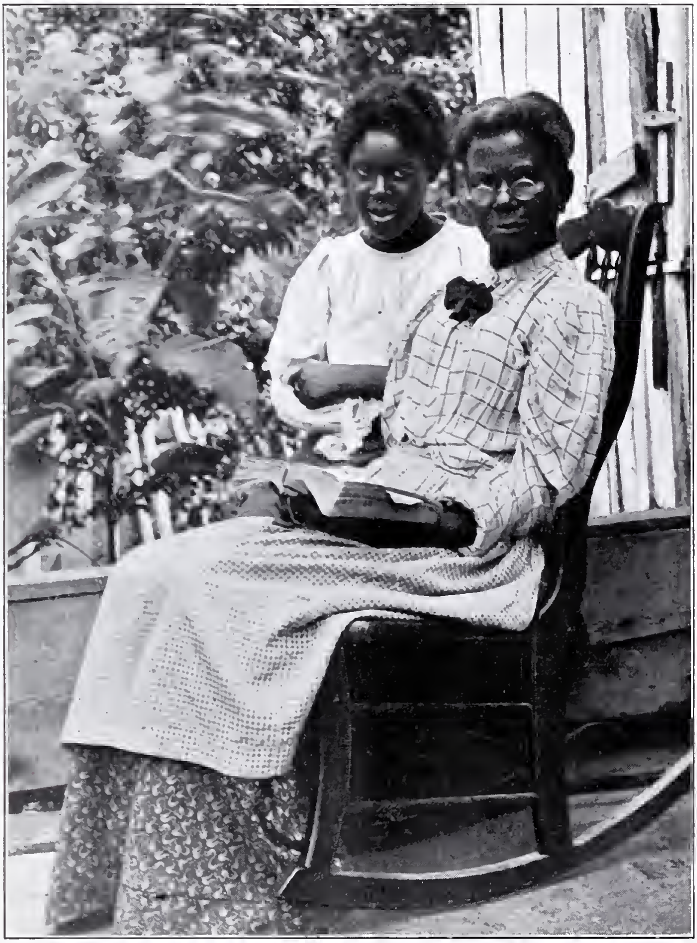
During a portion of a fourteen years' experience as an amateur photographer, was this:

I always supposed that good judgment, combined with experience (the latter implying the generous use of time and plates) would eventually enable me to obtain a good negative every time (or nearly so) I exposed a plate under any condition or upon any subject.

That was my mistake, and its consequences — scores of spoiled negatives through being under-timed, or overtimed.

The remedy for this condition of affairs I found a year and a half ago in the "Photo-Beacon Exposure Tables," and since then have made over eight hundred 4 by 5 and 5 by 7 negatives with all kinds of plates and film, on all kinds of subjects, afloat and ashore, under the midday July sun, and in the gloaming, and very rarely do I find a plate incorrectly timed.

It is very seldom that I find any indications of incorrect exposure after developing one or two dozen plates



Negative by D. H. Swiler, Harrisburg, Pa.

which I may have exposed on a Saturday afternoon or Sunday. Most of the amateurs with whom I come in contact tell me that they do not obtain good negatives from half of the plates which they have exposed. I find very few of them regard the matter of exposure from a mathematical standpoint. They evidently reason as I had used to do, that the ability to correctly expose a plate can be obtained by experience alone, as it can for the remainder of the photographic processes; hence the poor results they get.

I obtained a Gilson Exposure Table; it is founded on the same principle. I also purchased a Watkin's Exposure Meter. It is a good thing, and proves the correctness of the tables, but I prefer to use the latter. In fact, I remember most of them now; especially the "unit" — "June to August," 10 A.M. to 2 P.M., U. S. 4, 1/100 second for ordinary street scenes.

The tables were the very first means I had of knowing the various speeds of plates. The matter of diaphragms as there given is a "sure thing." The diaphragms and plate speed being given correctly, we have two factors in taking a view which never change, and we are master of. We have also two factors which *do* change, namely, intensity of light, and nature of the subject.

And the tables give such an easy solution to the problem as to how to allow for the changes in the first and correctly expose for the second, and are so simple and easily comprehended as to be so useful to a person the first exposure he makes with them, that any one once using them will never go out to expose a plate without them, unless, as in my case, they have them committed to memory. WILLIAM BULLOCK,

390 Bond street, Cleveland, Ohio.

[NOTE BY THE EDITOR.—I think it is but fair to the readers of this journal and to myself to remind them that this article was entered for competition during my absence in Europe, and that I had absolutely nothing to do with its gaining a prize, in fact, I did not know of its existence until November 1, when I was preparing copy for the press. I appointed judges for these competitions, and I loyally accept every decision they made, but in case anybody should think that I was simply working in a big free advertisement for products of my own brain, I feel I ought to say a few words in explanation. I am not a man who is thirsting for praise, but prefer to do what I think is right at any particular moment, and let it go at that.]

FILM IN SHORT ROLLS.

A recent announcement to the trade made by the Eastman Kodak Company is one which will be of interest to kodakers everywhere, and when it becomes widely understood will turn the scale of many a hesitating buyer in favor of the Kodak. If, in the past, there has been one strong point that could be made against the Kodak, it was the unavoidable waste of film which occurred when one wished to make but one or two, or even a half dozen, exposures. This anti-film argument will no longer be valid, for the Eastman people are now furnishing cartridges of six exposures each for all Kodak sizes except the 1½ by 2 Pocket, and cartridges of two exposures each for the 3½ by 3½, 4 by 5, and 5 by 7. Thus equipped the amateur can work his instrument with convenience and economy, whether it be for a couple of exposures at home, or for a hundred pictures on his vacation outing. Just at this season of the year, when home portraiture, both by time exposure and flash-light, are so much in vogue, the small rolls will be highly appreciated. They load in daylight in exactly the same manner that the dozen exposure rolls do, thus removing all need of the darkroom except for developing. This is a long step in advance for film photography, and is one which every amateur will surely appreciate.

"USEFUL ARTS AND HANDICRAFTS."

This series of books is now well under way, and ere this copy reaches the readers of this journal two of the books will be ready for delivery. One is entitled "Design and Drawing for Beginners"; the other, "Dyes, Stains, Inks, Lacquers, Varnishes and Polishes: How to Make and How to Use Them." Both are exceedingly practical, simple and at the same time so thorough that we feel sure even experts will learn something new from them. Others of the series are under way, and to make sure of their being complete and up-to-date we are having them revised by two of the leading instructors in the manual-training schools of Chicago.

"LYING ABOUT, CARELESS-LIKE."

We have not heard so much of late about "Darkest Photography, and the Way Out," nor do our papers fill up with the financial woes of the poor, struggling professional photographer. We must take it, I suppose, that things are jogging along in the usual way; if it does not run to sausages for supper, at least there's bread and cheese. I have often wondered what amount of good resulted from these agitations, whether any professional benefited to the extent of a shilling. But, as Kipling says, that is another story, and, as the office boy puts it, "things as is, is," and from this latter emphatic utterance there's no getting away, no way out. We have to face every day the business of that day, and, to get on, we must see that it is done properly. It is of no use saying with the editor of this paper, "It shall be done," if we do not put our shoulder to the wheel and push.

Now I've arrived at the point I wanted. It is not only the business of each day that we must attend to, but our eyes must be always wide open for extras. Do what has to be done, of course, and anything else that presents itself in addition. And here let me say that I am not writing these few lines for Vandyke Fitzjabbers, Esq., artist, or John Millais D'Ancy, art photographer, each with their art galleries and decorated reception rooms, who do nothing under £2 2s. a copy, and so on; who will only operate by special persuasion, and provided they have not a bilious attack. No, it is the ordinary or common garden professional to whom I want to say something. True, even he may turn up his nose at it, and in that case let it turn.

Negative by H. E. Paine, Cleveland, Ohio.

CUTTING POTATOES.

I have upon more than one occasion taken down to one or other of our metropolitan societies a match box or a cigarette case containing in the front a photograph; and I have gone so far as to suggest that there might be a little business in this sort of thing. The usual criticism I have so far met with is that it would be *infra dig.* Well, now, I feel in for a dig at some of our plodding professionals, that they do not keep their eyes open for extras. "What!

sell match boxes?" they cry; "crushed snakes, what next?" But suppose, good sirs, a customer picked up a match box, admired it, and asked where he could get one like it, would it be asking too much for you to say that to oblige him you would put his photograph in one? You see I am putting it very mildly, as I have no desire to trample upon your feelings more than I can help. But, then, forsooth, even an artist uses matches, and it would not be too utterly barbarian if a box should just chance to be handy for the convenience of a customer.

But, then, what about ladies? They don't smoke, you say, and — well, the less I meddle with that matter the better. But there's no harm in confessing that *all* my cigarettes are not smoked by — myself. That's diplomatic, I think. Well, even for ladies the matches might be taken out and pins inserted. No one can go wrong on pins, they are a female commodity of considerable importance, whether the double-barreled variety for the hair, or the sharp-business-pointed-keep-everything-up sort.

I'm afraid in my old age I am getting somewhat Abraham Bogardusy. But to come to the point. There are a number of metal boxes now sold with glass lids, and the commoner kinds are made oblong and round, and in about four sizes each. They are intended for the exhibition in shop windows of small things, such as drawing-pins, hairpins, collar studs, etc. They are strongly made, look very well when new, and cost but little. A little frame of metal, readily removable, holds the glass in position. Now, it is the easiest thing in the world to squeegee down a silver print upon the glass, and at once we have an extra not to be despised by any one. The round patterns are more suitable for ladies' use, but those I have used for some years now fit in very well for gentlemen. The smallest size is a wax match box, the next a card case, and the largest a cigarette case. I have had one match box in use for five years, and a cigarette case for at least three years. Even if the glass breaks, it is easily replaced. The prices of the boxes are approximately 2d., 3d., and 4d. each, bought singly, but, of course, by the gross it would come out much cheaper.

The right size of the cigarette case is 2⅛ by 3⅜, very nearly an ordinary C.D.V. print. And may I put it before you how nice a small vignetted carte head looks in this framework, one of those heads you pay 6d. for when you put the retouching out, with the postage extra. Poor girl, she has to stipulate *that* extra. Just think how pleasant the surprise at receiving from the man sweetheart a nice pin box with his photo, or from the female sweetheart a convenient cigarette case with her portrait. In matters connected with unmarried people, especially, you professional photographers need to keep your eyes wide open, there's money in it.

You buy a little box for a little 4d., and sell it for a big shilling, say; meanwhile you have merely printed an extra copy of a dozen order, and stuck it down to the glass instead of mounting it. *Infra dig.!* Where does it come in? You please a customer and pocket the shilling, that customer comes back and you pocket more shillings. Surely *infra digs.* can be swallowed at a shilling at a time.

I have sent the editor one of these boxes for use as a cigarette case, and, as I should do were I a professional photographer, I have inserted in the lid a photograph that is interesting to the recipient.

Christmas is coming again this year, and for gifts these things are most suitable. Local views could, of course, be utilized, but it is in the personal the application lies.

So have some of these boxes lying about, careless-like, on the table. You'll find them pay you.—*British Journal of Photography.*

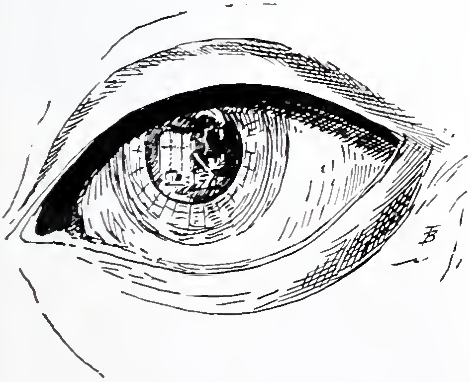
WALTER D. WELFORD.

WOOD-CARVING is a clean, interesting occupation for a winter's evening, especially suited for ladies and young people. It is inexpensive, and its results are both decorative and useful. You can learn all about it for 25 cents. Written by C. G. Leland, and revised by three other experts. For sale by The Photo-Beacon Company.

LOOKING THROUGH THE EYES OF OTHERS.

To the casual observer, a photographic portrait furnishes no more than the mean representation of the features taken, but on careful examination by microscopic aids, many a photograph will reveal much which otherwise would never have been discovered. Indeed, it is not too much to say that, under favorable circumstances, the photographer may be identified, particulars of the studio given, and the time of day found out, all by the images falling upon the crystalline lens at the moment the photograph was taken.

The accompanying sketch, which is taken from an enlarged photograph, indicates to some extent the possibility of my remarks. The image of a shop window and various objects are seen upon the crystalline lens, which are sufficient proofs that by carrying the experiment to greater perfection much information may be gathered from the pictures visible on the opening of the iris.



To carry the inspection further, a photograph of the two eyes of a person may be enlarged sufficiently to make the spaces on which the images are seen 2½ inches diameter. These two enlargements, i.e., a picture of the right eye and also of the left, if mounted side by side, when examined in a stereoscope, will present a perfect stereoscopic relief as in nature, and the observer will thus be enabled to look, as it were, through the eyes (i. e., a copy of the eyes) of the person originally photographed, viewing the same surrounding objects in which the person was situated during the operation.

Neg. by Frank E. Foster, Iowa Falls, Iowa.

SHELLING PEAS.

So perfect is this system of reproducing the images falling on both eyes of the person, that subsequent observers may, by stereoscopic agencies, not only accurately estimate the dimensions of the studio, but also describe the various objects in the view, being guided by the correct proportions and perspective thus given.—*The Amateur Photographer.*

THEODORE BROWN.

PHOTOGRAPHIC SALON IN CHICAGO.

The Chicago Society of Amateur Photographers has decided to hold a photographic salon in the Art Institute, Chicago, in the month of April, 1900. This is the first venture of the kind in this part of the world, and the society proposes to do it in Chicago style. One hint to our readers: They gently hint down East that there is nothing artistic about photography in the West. Enough said.

COPYING PHOTOGRAPHS.

SECOND-PRIZE ARTICLE.

While the copying of photographs is not a customary thing with most amateurs, yet at some time or other nearly every one must have had a wish to try it. It may be that the sight of an old photograph, the only one left and already beginning to turn yellow and fade, has caused a wish that it might be copied and thus preserved still longer. Or some one has been unfortunate enough to break a valued negative but has a print from which he might obtain a new negative as good if not better than the old one, if he could only manage to copy it.

The chief trouble, however, usually experienced by any one who takes up copying, is due to the short bellows of the camera. In most of the hand-folding cameras that are used nowadays, it is impossible to rack the lens out far enough to copy a cabinet or 4 by 5 photograph full size. This is because the lens is of too great focal length. What is needed is a third element in the lens to reduce its focal length. These third elements can be procured of opticians, or, if one possesses a small achromatic telescope, he can slip the objective of that between the elements of any rectilinear lens and get the same effect. I do not advise the use of a lens from a telescope, however, because the depth of focus is cut down so much that the operation of focusing becomes very tiresome and time-consuming. There is a little lens made, moreover, called the "Ideal," which is so mounted that it can be readily slipped over the lens hood of any folding camera. Having used this little lens considerably, I can vouch for the work it will do. Of course, any one who has a camera with long bellows will not need any addition to the lens.

Having obtained a suitable lens, the rest is fairly easy. A copying stand is very convenient, but is by no means necessary. We can get along with an ordinary table, a wooden box about a foot square, and our camera and tripod. The table should be placed near a window, one facing north being best. The picture to be copied is fastened upside down with thumb-tacks to one side of the box so that it will be perfectly flat and smooth, then the box is placed at an angle with the window, so that the picture will receive a strong, even light. If the photograph is unmounted and thin, a piece of red or black paper should be put behind it.

Now set up the camera on its tripod at the proper height, and looking at the ground-glass, shift it about until the image is roughly the size desired. Then arrange the box so that the center of the picture shall be on an exact line with the center of the lens, the picture itself being kept rigidly parallel with the ground-glass, and focus. In focusing do not focus the center alone, but pay particular attention to the edges; it will probably be found that the exact point can be most easily reached by moving the box slightly rather than by moving the lens. This done, everything is ready for the exposure.

Neg. by Dr. Ira A. Eberhart, Chicago Lawn, Ill.

A CHEERING PROSPECT.

In making the exposure I think it better to give full exposure in order to bring out all possible detail and trust to the development to retain contrast. In a strong light, such as would be obtained in the middle of the day, and using a fairly slow plate, say Seed 26, with the lens stopped down to *f* 45, an exposure of thirty seconds will be about right. If using a more rapid plate, such as the Hammer Extra Fast, which would be better if the photograph had heavy shadows, about twenty seconds should be given. These exposures are for copying full size and will be close enough for all ordinary work.

Having exposed one plate, the next step in order is the development, and this is fully as important as any other part of the work. The two things that are hard to obtain, as a rule, in a copied photograph are intensity and contrast. I have seen copies, taken by a professional, too, in which the high lights better deserved the name of "high grays." Bearing this fact in mind, it will almost invariably be found that by giving the plates full time and developing them very slowly, the best results will be obtained. Pyrogallic acid and hydroquinone are both used to produce strong negatives, but since pyro is apt to produce stain during prolonged development, preference should be given to hydroquinone. I have tested the following formula thoroughly and can recommend it as one that will give good results. It is also very good for overexposed plates of any kind :

A.

Water	25 ounces or	750 c. c.
Sodium sulphite (cryst.)	3 " "	90 grm.
Hydroquinone.........	½ " "	15 "
Potassium bromide	¼ " "	7.5 "

B.

Water	25 ounces or	750 c. c.
Sodium carbonate (cryst.)	6 " "	180 grm.

For development take equal parts of A and B.

The best results will generally be obtained by using a mixture of about two parts of new to one of old developer. Development will be very slow, but a negative of good contrast and intensity will be the result.

Copying can be put to a variety of uses and lends itself to innumerable dodges. I once had occasion to copy a photograph which had seen very hard usage, being covered with scratches and spots. I made a negative and printed from it on Carbon Velox. It was easy to touch this up with a lead-pencil. Then I copied this print, taking care that the light did not show the pencil marks, and the result was a negative which gave a print far better than the original photograph.

A. G. Woodman,
Essex, Massachusetts.

HOW TO CUT A LANTERN MASK.

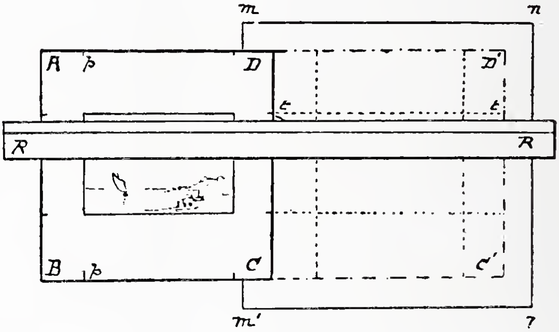
One of the several reasons why lantern slides fail to obtain as much attention as pictures is due to the frequent absence of due attention to the choice or use of a mat of suitable proportions.

It should always be remembered that the mat corresponds to the frame, and that an admirable composition may be ruined by unsuitable presentation. Unfortunately, the makers of mats have not yet given the buyers anything like a sufficient choice of sizes or proportions. Of fancy shapes, oval, dome, cushion, etc., there are enough and to spare, but no person of artistic taste is likely to use anything except openings bounded by straight lines.

Again, when one reflects that as each picture requires a frame made for it, so each slide should have a mat especially suited to it. So that while one may have a dozen rectangular openings to select from, it is more than likely that none of them is exactly what is wanted, so the only thing to do is to set about cutting a mat for oneself. Fortunately, this is easy enough if only one goes to work in the right way. The writer, after trying various tedious methods of parallel rulings and measurements, finds the following method quite simple, expeditious and efficient. All one requires is simply a sharply pointed penknife, a finely pointed pencil, a flat ruler with a good, i. e., straight edge, some black paper (in sheets), and a bit of stout, hard millboard or zinc to cut on.

Proceed as follows : Having bought the black opaque paper (for the mats) in sheets measuring about 20 by 16 inches, first cut out of any piece of stout card a piece measuring 4 inches each side, being careful to get a true square. It is worth a little trouble getting this true at first, as it saves much time afterward. Now fold up the sheet of black paper in such a way that you get as many pieces as possible a trifle larger than the 4-inch square card. Having placed these in a pile, using the 4-inch square card, cut through the whole lot, using a *sharp* knife for the purpose. The reason why the papers are cut 4 inches square for a 3¼-inch square slide will presently appear.

Next, each slide is examined, and, by means of four straight, narrow strips of black paper, its ultimate proportions are determined upon. On the film and at the edge of the slide, pencil marks are made corresponding to these desired limits. In the accompanying figure A B C D is the slide, *p p* are two pencil marks corresponding with the left-hand margin of the desired mat. Now take a 4-inch square of black paper, *m n m' n'*, and lay upon it the slide A B C D, so as to leave an equal margin all the way round, and go round the slide with the pencil in a broken line as shown in the figure D D' C' C. It is along this line that we shall ultimately cut the mat to fit the slide after the opening has been cut out. Now on any flat surface, e. g., a sheet of card, place the black paper *m' n m n'* and alongside it the slide, in such a way as shown in the figure, so that A, D and D' are in a straight line, and that the left-hand side of the ruled square on the black paper coincides with the right-hand side of the slide. Now lay the ruler R R on the slide (which is, of course, film downward all the time) and on the black paper, and when its position corresponds with the pencil marks on the film, rule a line on the black paper. In the figure, for the sake of clearness, the ruler is not quite high enough, but when it is in position the line on the black paper would be at *t t*. It will now be seen that one edge of the slide D C rests upon a narrow strip of the black paper at *m m'*, and so prevents it shifting while the ruler is being adjusted and the line ruled. Next give both slide and black paper a quarter-of-a-circle turn to the right so that the side A D is now vertical, and this edge will now rest on what was the lower edge *m' n'* of the black paper. We now have *p p* of the slide horizontal, and can rule the line *p' p'* on the black paper. Another quarter-circle turn of slide and paper and we get the lower margin of the slide uppermost, and so on until all four sides are ruled as shown by the *dotted* lines on the black paper. From the portions where they cut each other the middle part is cut out, using a sharply pointed knife and a bit of *hard* millboard, or preferably a piece of sheet zinc (this does not dull the knife point as glass does, nor is there so much danger of the knife slipping).



Having cut out the central opening, a sheet of white paper is put down, then the mat, then the slide, film down, and accurately adjusted to position, and, finally, the knife is run round the outside of the slide and the mat is done.

All this seems a great deal of talk about so simple a matter, but the writer has been careful to try and make every little detail quite clear. In actual practice it takes much less time to rule and cut half a dozen mats than it does to read through this description. Once this plan is tried it will be found so simple and convenient that the reader will not need to try any other.

While on the subject of mats, let it be here said that if the rougher side of the black paper be selected, it will be found easy to write the title, etc., of the picture on the paper by using a fine small brush and Chinese white paint (water color); and that excellent white spots can be cut out of the gum edging from stamps. The spots are best put on the mat, and so, being between two glasses, are not liable to get displaced.—*The Amateur Photographer.* F. C. L.

HOW TO STRAIGHTEN COCKLED MOUNTS.

Cockled and twisted mounts are almost worse than useless, for one could mount half a dozen prints on straight mounts in the time that it takes to successfully mount one print on a cockled mount.

I venture to think that nearly every photographer has experienced the trouble and annoyance consequent on receiving from the maker a packet of large mounts, which, through having lain on an uneven surface during storage, and then having undergone various changes of temperature — resulting in alternate expansion and contraction — have become curled up and twisted.

It is my intention, therefore, in this article to give the details of a method for straightening cockled mounts, which I have, in practice, found very effective. First of all, take the mounts one by one, and, holding them in the manner shown in Fig. 1(i. e., with the corners that are twisted up between the fingers), warm them thoroughly over a gas jet or before a fire. When they are warm right through, keeping hold of them in the same manner, rest the other two corners of the mounts on the edge of a table or bench (Fig. 2), and press down till the mounts are quite straight.

When this has been done, catch hold of them as shown in Fig. 3, and bend slightly downward in the form of an arch.

Care must be taken here not to *twist* the mounts, but simply to bend straight over.

Then lay them on a perfectly flat surface, one on the other, as represented in Fig. 4, which is, of course, an end view.

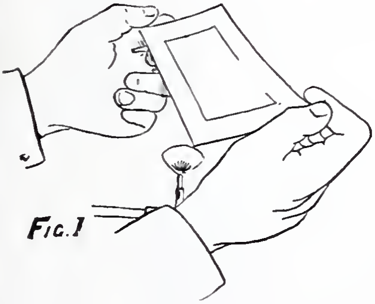


FIG. 1

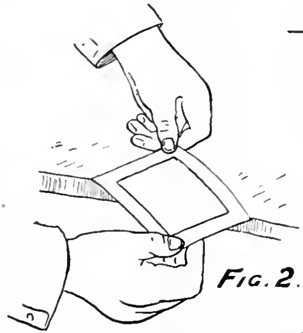


FIG. 2.

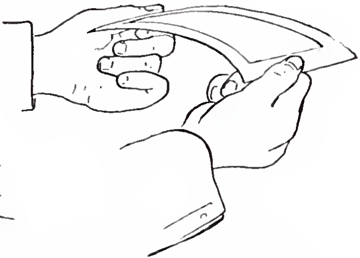


FIG. 3

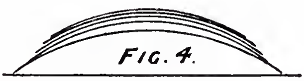


FIG. 4.

During these operations, the mounts will have still retained their warmth (or they *ought* to have done so if the operations were carried out with despatch), and on cooling down to the normal temperature, they will be found to have straightened out of their own accord.

Mounted photographs that have become cockled may be treated in this way, and restored to their proper shape; but care must be taken that in bending them the photograph does not become separated from the mount.—*The Amateur Photographer.*

THEODORE BROWN.

SNAPPED THE METEORS.

Professors John A. Brashear and F. L. O. Wadsworth, of the Allegheny Observatory, announced today that they have secured six pictures of meteors, which were flashed across the heavens on Thursday night last. Three of the plates have been developed. They show wonderful results. Both say that these pictures will startle the astronomical world, owing to the fact that they were taken on what is known as curved plates, and not on the old-fashioned flat plates. These plates were specially coated for them by John Carbutt, of the Keystone Dry Plate & Film Works, Philadelphia.

With the old-fashioned flat plates, which have been used up until last week, the astronomers were only able to cover about ninety square degrees, but with these new curved plates they have succeeded in covering about 950 degrees, and this, they claim, will make a wonderful difference in future experiments along the line of astronomical photography.—*Pittsburg Press.*

While mentioning Mr. Carbutt's name we may add that, when in Philadelphia recently, we overhauled hundreds of specimens of his latest product, Vinco, a new gaslight paper, and was much impressed with the beautiful character of the blacks. "No free samples," is Mr. Carbutt's motto, and the factory is unable to supply the demand.

DIRECTIONS FOR MAKING LANTERN SLIDES

BY REDUCTION WITH THE IDEAL ENLARGING AND COPYING LENS.

[A number of correspondents having asked us as to the possibilities of making lantern slides by means of the Ideal enlarging and copying lens, we asked Burke & James for a short note on the subject, and they sent the following.—ED.]

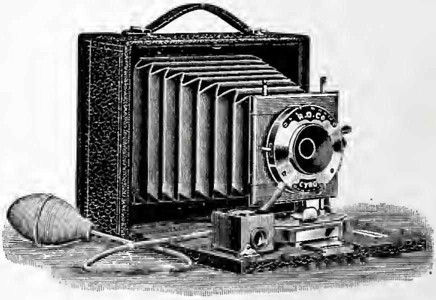
Take a board about twenty-four inches square, cut a hole in the center of it a little smaller than the size of the negative. Cover the board on one side with black paper, or paint it a dark color; also see that the edges of the opening are covered or painted. On the black side of the board place the negative, film side up, center it over the opening and fasten it there with thumb tacks.

Cover the opening on the other side of the board with fine white tissue paper. This should be pasted on. Now set the frame perfectly upright against the window, with the tissue paper toward the glass, allowing the light to pass through the paper first and then the negative; then draw the window shade down until it covers the top of the board. Now place the camera with the enlarging and copying lens attached on a table about six or seven inches away from the negative, then by moving the bellows in or out, get the size required by looking on the ground glass; but to get fine focus move the entire camera backward or forward until the focus is sharp. If the table is not high enough, place a box on it, but do not tilt the camera.

Now procure a kit to carry the lantern-slide plate in the plateholder, and expose in the same manner as for copying.

PONY PREMO D.

This is the latest addition to the very popular series of cameras of the Rochester Optical Company, Rochester, and we had much pleasure in looking over it very thoroughly a few days ago when we happened to be in Rochester. It is a beautifully finished instrument of the compact type. The woodwork is butternut, finely polished, and forms a tasteful background for the lacquered brass fittings. Lens, shutter and all other fittings are equally as high grade, and the marvel is how such an instrument can be furnished at the low price of $10.



"First Step in Photography." Just the book for beginners. Price, 25 cents.

Neg. by Frank E. Foster, Iowa Falls, Iowa.

DOES MAMMA WANT ME?

BEWARE OF A THIEF.

Stolen from my studio the night of November 13, one old style Voigtländer Portrait Lens No. 21,485 (diameter of lens about 3 inches), and one Beck 18-inch Focus Rectilinear Lens No. 2728. Any information leading to the recovery of the goods or arrest of the parties implicated will be thankfully received and suitably rewarded.

Geo. B. Sperry,
319 Summit street, Toledo, Ohio.

EDITORIAL TABLE.

The first annual to reach our table this year is "Photograms of 1899," which is bigger than before and possibly better. We say possibly advisedly, for the publishers have always set a high ideal before them and it will be certainly difficult to make the book better. The volume contains the best photographic pictures that have been shown in the photographic exhibitions on both sides of the Atlantic. We advise our readers to invest in a copy, so that they can see what photography is capable of, and at the same time get suggestions for future work. There are one or two rather amusing features in the book, however, especially with reference to American work. The writer of the article on "The American School" is a New Yorker and an amateur photographer, therefore there is a whole lot he does not know, and he is not aware of the extent of his ignorance. He deplores first that there is no strictly American school of photographic art; and, in the second place, sees a little hint of the dawn coming, and gives credit for that little ray of hope to a photographic publication issued to a select few once a quarter. We live in Chicago, in the "Wild and Woolly West," where men's minds are given up to the making of pork and the handling of grain, therefore there is no art in this benighted spot. So thinks our Eastern friend, who believes he sees it all because, forsooth, he lives in New York. May we tell him that there is an American school of photographic art, distinctly its own in style, and that — horror of horrors! — it is to be found in professional photography? We have gone carefully through the "Photograms of 1899," examined every portrait therein, and have no hesitation in saying there is not one really good specimen of portraiture in the whole book, according to the American ideals of the last three years. Nay, more, but yesterday we had a call from a photographer in a small town in the Middle States, a man who but five years ago was a farmer, and we placed in his hand some portraits made by one who is in every one's mouth in Britain as an artistic professional photographer. He looked through them and passed them back with the remark, "Who made that ordinary stuff? He must have been asleep for a few years." Long before "Camera Notes" was ever dreamed of, James Inglis and the writer were stirring things up considerably, and today these two men can walk into any photographic convention, claim a part interest in practically every picture hung on the walls, and what is more, have it accorded them with a smile. So this new American school is a Western product — not an Eastern — is distinctly American by birth and not European. The American today is an originator, not a copier, and the sooner the folks who live at the jumping-on place look across the prairie and turn their back on the sea the more chance there will be for them to see something.

Closely following "Photograms of 1899" comes "The International Annual," published by E. & H. T. Anthony & Co. It has now reached its twelfth volume and is in no way inferior to its predecessors. It contains much of value in its reading matter, is beautifully illustrated with really fine half-tone engravings, and is a credit to both printer and publisher.

To process men "Penrose's Annual" should be exceedingly welcome. The point of honor is allotted to exceedingly valuable and practical articles on the three-color process, while the rest of the book treats of the many phases of process work. The illustrations, representative of every kind of process work in use at the present time, are simply superb. Tennant & Ward, 289 Fourth avenue, New York, are the American agents for this publication. Price, $1.50, postpaid.

Reflex Camera.—When in New York in the middle of November we had the pleasure of overhauling pretty thoroughly a new camera which, we think, will command a well-deserved popularity. It belongs to the Reflex type of instrument, which by the way has always enjoyed considerable confidence on the other side of the Atlantic, and which was represented in the World's Fair by an English firm. But American amateurs did not seem to favor it, principally, we think, on account of the rather cumbrous character of the specimens that have been shown in this country. But the instrument we saw in New York, which will be known as the "Reflex," is a very compact instrument, and is in the 4-by-5 size but little if anything larger than an ordinary camera of the box type with adjustable focus. For such of our readers as may not be familiar with instruments of this type it might be worth while to describe it.

The idea of the Reflex camera is to permit the photographer to see on the ground glass, right way up, an image exactly the same size as will be in the finished print, and at the same time to focus on the ground glass up to the very instant of exposure. This is attained by a mirror placed between the lens and the plate in such a manner that it intercepts all the rays passed by the lens and deflects them in an upward direction until they reach the finder. This arrangement renders a focusing scale and the judging of distance both unnecessary. The lens is moved either backward or forward by means of the focusing rack until the image appears sharp on the finder and will then produce an equally sharp picture on the plate. To effect an exposure the mirror is moved out of the path of the rays by pressing down the exposure button. The light now passes underneath the mirror, which has automatically closed the light shaft in which the ground glass is secured, and thus prevents any light from entering the camera through this opening. Once the light shaft is closed, the mirror releases the focal plane shutter which works immediately in front of the plate, and thus permits the light from the lens to act upon the sensitive plate. The relaxation of pressure on the exposure button causes the mirror to resume its original position and the picture is again visible on the ground glass. All this takes a little time to describe, but exposing a plate is done just as smoothly and as quickly as with an ordinary lens.

Our readers can readily understand that the Reflex camera is simply an ideal one for photographing moving objects. A football game, a golf match, a trotting horse, street scenes, are all within the scope of this instrument, for the movements of the subjects are in view all the time, and as the distance varies the image can be kept in sharp focus by a slight movement of the screw with the fingers of the left hand, while the thumb of the right rests on the shutter trigger ready to give it the little pressure sufficient to make the exposure the instant everything is as it should be.

With the focal plane shutter attached to the instrument exposures from $\frac{1}{3}$ to $\frac{1}{1000}$ second can be given so that anything that moves comes easily within its powers. Arrangements can also be made for time exposures. The finish of the instrument is everything the most fastidious could desire, and as the price is very reasonable we fancy the instrument will find a ready sale. It is manufactured by the Reflex Camera Company, Yonkers, New York.

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